Local Transport Plan 2022–2032

SURREY COUNTY COUNCIL

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Draft for Consultation

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Foreword

Foreword

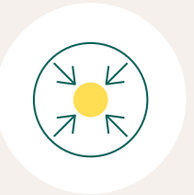
The way we think about travel and its impact on the environment has changed. Urgent global action is needed to avoid dangerous climate change caused by greenhouse gas emissions, including transport's carbon emissions. That's why Surrey County Council declared a climate emergency in 2019 and produced a Climate Change Strategy committing to taking action, to play our part in turning the tide on climate change.

The county council has committed Surrey to net zero carbon emissions by 2050, in line with the Government's national legal commitment to net zero carbon emissions in the UK by 2050. Achieving net zero will mean a step change in how we think about, plan, deliver and maintain transport, as transport accounted for 46% of Surrey's carbon emissions in 2019.

This fourth Local Transport Plan (LTP4) for Surrey sets out our ambitious roadmap for rethinking and transforming Surrey's transport to 2032 and beyond. The LTP4 aims to significantly reduce transport carbon emissions to meet the net zero challenge and to support delivery of Surrey's other priority objectives of enhancing Surrey's economy and communities, as well as the health and quality of life of our residents.

The LTP4 has been developed from an extensive evidence base, compiled by reviewing local policies, strategies and datasets to understand Surrey's issues and identify the key drivers, priorities, opportunities and challenges for transport across the county.

Meeting the ambitious county and national carbon reduction targets requires significant changes across all elements of the economy and communities. For transport, Surrey will build on existing measures and develop new measures that align with the following principles:

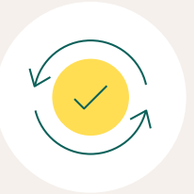


Avoid

Reduce the number and length of trips needed by improving land use planning, travel planning and levels of digital connectivity.

Shift

Shift travel to more sustainable modes: public transport, walking, and cycling, away from car use.



Improve

Improve emissions intensity and energy efficiency of vehicles and operational efficiency of roads, through technology improvements.

Foreword

Achieving the scale of carbon emissions reduction required will involve a step change for transport; this will need Surrey and its people and organisations to work together to make changes in where and how they travel and use online opportunities.

The LTP4 sets out plans to support these changes by developing and enhancing safe, cleaner, greener ways of travelling and accessing services and opportunities. Behaviour change, innovation and uptake of technology such as electric vehicles, will all be integral to achieving these challenging aspirations for our county.

The ambitious transport changes planned to reduce carbon emissions will also bring benefits across each of Surrey's priority areas: of economy, community, health and wellbeing. The LTP4 will integrate closely with several of Surrey's key strategies and visions, providing the transport roadmap to support delivery of the **Community Vision for 2030, Health and Wellbeing Strategy,** and the emerging Surrey Plan for Growth.

The LTP4 also aligns to **Surrey's Place Ambition,** recognising that effective planning for places through land use planning and digital connectivity will be essential to changing transport trends and achieving carbon net zero by 2050.

Sustainability has been a **guiding principle in developing the LTP4,** with a focus on identifying and maximising opportunities for supporting environmental, economic and social sustainability, as well as identifying potential sustainability challenges that need to be avoided or mitigated.

As such, this is the first LTP to strive to protect and deliver net improvements in our unique natural and built environment in every project we deliver and, where this isn't possible, to minimise environmental impacts. This includes improving air quality, delivering environmental net gain, and a commitment to ensuring that any new measures delivered by the LTP4 minimise embodied carbon and are resilient to levels of climate change that are now considered inevitable.

The LTP4 has been developed at a time of uncertainty due to the COVID-19 pandemic, inducing a fundamental shift in the way that residents and businesses interact with the places in which they live and work, bringing new travel challenges; particularly for public transport. However, opportunities have also emerged from accelerated changes in travel behaviour, such as the increase in people walking and cycling. The LTP4 reflects these challenges and builds upon the opportunities to deliver a step change for transport in Surrey.

We would like to hear your views on the draft LTP4. Have your say by visiting **https://surreyltp4.commonplace.is/** until 24 October 2021.

Background and context

Background and context

1.1 Introduction

The Surrey Transport Plan is the Council's fourth Local Transport Plan (LTP4). The LTP4 covers the period of January 2022 – March 2032 and beyond. It is a statutory document, meaning it must be properly considered as part of other planning processes. An LTP4 Delivery Plan is also being developed and will be published in 2022 as a live document that will be regularly updated.

An Integrated Sustainability Appraisal (ISA) of the LTP4 has been undertaken alongside the plan's development, to assess its potential impacts on sustainability in Surrey.

The ISA has played an important role in shaping the LTP4, ensuring that sustainability is a guiding principle throughout. This LTP4 has been developed to make the most of opportunities to advance all three dimensions of sustainability (environment, economy and society) and to carefully address any potential challenges that the plan presents, to ensure that they are avoided or mitigated. To view the ISA, **click here.**

The next section provides a summary of the evidence used to identify the challenges and opportunities to be addressed by the LTP4. This involved a thorough review of Surrey's policies and strategies and of key data and statistics representing conditions in Surrey.

To view the full LTP4 evidence base, **click here.**

The remainder of the LTP4 consists of:

Background and context
Provides a summary of the evidence base and wider context for the LTP4, including key drivers for change.

Vision and objectives
Details the LTP4 vision and objectives.

Policy areas
Sets out the nine policy areas we will work across to achieve the LTP4 objectives including meeting the 2050 carbon net zero challenge, and the policies to ensure that the LTP4 contributes to sustainability.

Impact strategies
Sets out how each of the four LTP4 objectives will be achieved.

Delivering the Plan
Covers phasing, responsibilities and funding for the LTP4.

Measuring our success
Discusses how the performance of the LTP4 will be measured going forward.

Next steps and further information
Provides details on our next steps and links to further useful documents.

1.2 Surrey context

The LTP4 has been developed to reflect Surrey's characteristics and the challenges and opportunities they present. A selection of the key characteristics is summarised below, under seven main groups, relating to the county's:

- **Geographical characteristics**
- **Carbon challenge**
- **Economy**
- **Communities**
- **Quality of life**
- **COVID-19 response**
- **Transport system**

To access the full evidence base setting out the range of characteristics considered in more detail **click here.**

1.2.1 Surrey's geographical characteristics

Surrey covers 1,660 square kilometres. There are eleven districts and boroughs within the county (Figure 1.1) and we share borders with several authorities, including London.

Nearly 1.2 million people live in Surrey (2018), making it one of England's most densely populated counties. 87% of the population live within urban areas, whilst over 70% of the county area is considered rural.

Our county has a unique natural and built environment, including rural, heritage, and agricultural landscapes, as well as urban areas such as Guildford, Woking, Weybridge and Epsom.

There is no one dominant urban centre for Surrey. Instead, there are a number of towns that are strongly interconnected, both between themselves and to London, to differing extents.

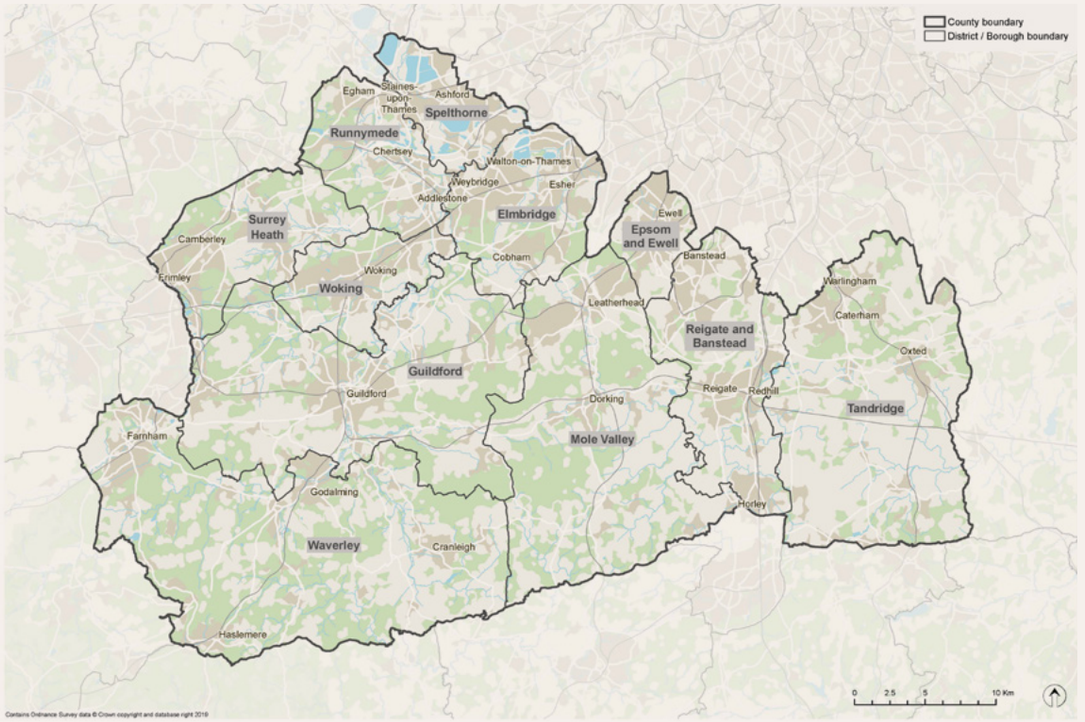


Figure 1.1 – Surrey's districts and boroughs,
Source: Surrey Infrastructure Plan, Baseline Report, 2020

The county benefits from a wide range of well known, high quality landscapes, cultural assets and rich biodiversity. Over 70% of Surrey falls within one or more national or international landscape or biodiversity designations, including:

- **2** Areas of Outstanding Natural Beauty (AONB) (Surrey Hills and High Weald);
- **3** Ramsar sites;
- **2** Special Protection Areas;
- Several Special Areas of Conservation;
- **65** Sites of Special Scientific Interest; and
- **3** National Nature Reserves.

For full details on Surrey's environment and geography, see the LTP4 evidence base and accompanying Integrated Sustainability Appraisal (ISA) **here.**

1.2.2 Surrey's carbon challenge

Urgent global action is needed to avoid dangerous climate change caused by greenhouse gas emissions, including transport's carbon emissions. The county council recognised this by declaring a climate emergency in July 2019 and committing Surrey to achieving net zero carbon emissions by 2050 at the latest, in line with the national legal commitment.

In 2020 we also published a **Climate Change Strategy** which sets out Surrey's pathway to net zero carbon (Figure 1.2). This shows the carbon emissions reductions needed year on year for Surrey to achieve net zero and to limit cumulative emissions to make a fair contribution to the national and international carbon reductions necessary to avoid dangerous climate change.

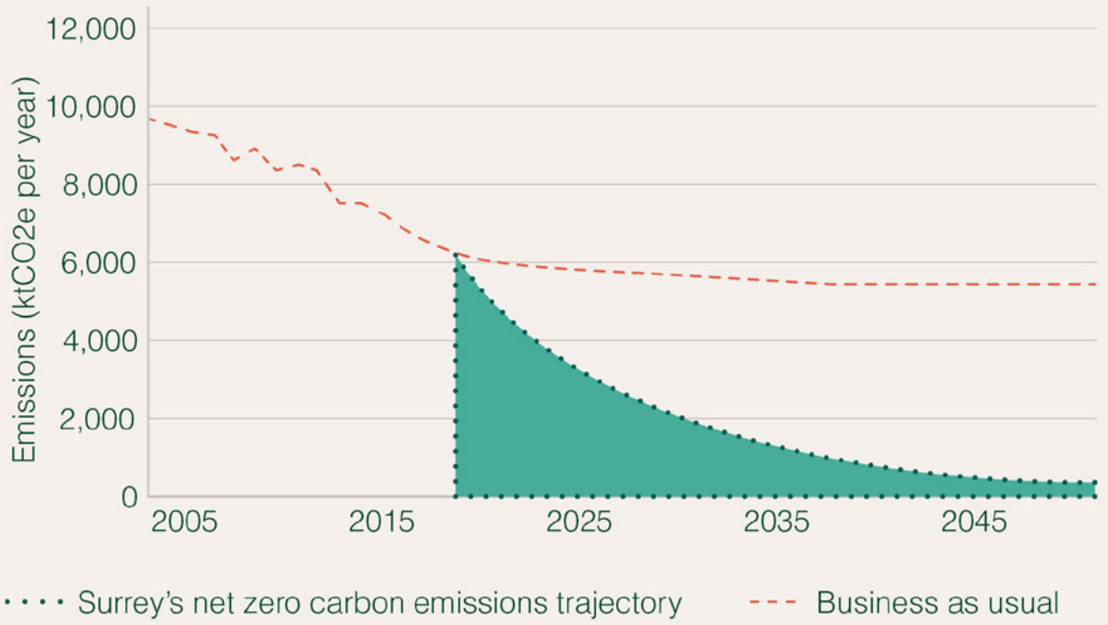


Figure 1.2 – Surrey's net zero carbon emissions trajectory, Source: Surrey Climate Change Strategy, 2020

Surrey has one of the busiest road networks in the country, carrying double the national average traffic flow. Carbon emissions are falling, but not quickly enough to meet the council's net zero emissions target by 2050.

Successfully reducing carbon from transport will be critical in achieving Surrey's net zero target. The sector produced 46% of Surrey's carbon emissions in 2019 (Figure 1.3) and the proportion is expected to increase if nothing is done (business as usual scenario).

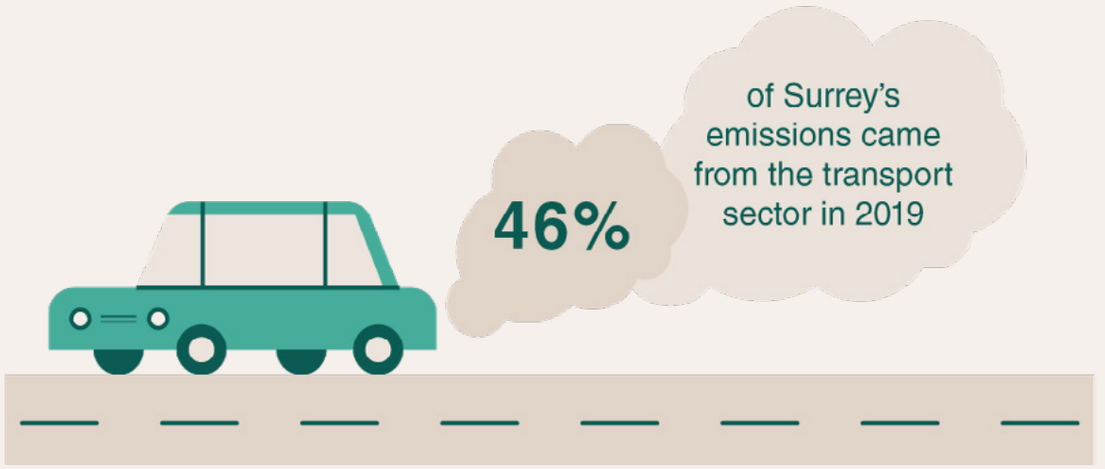
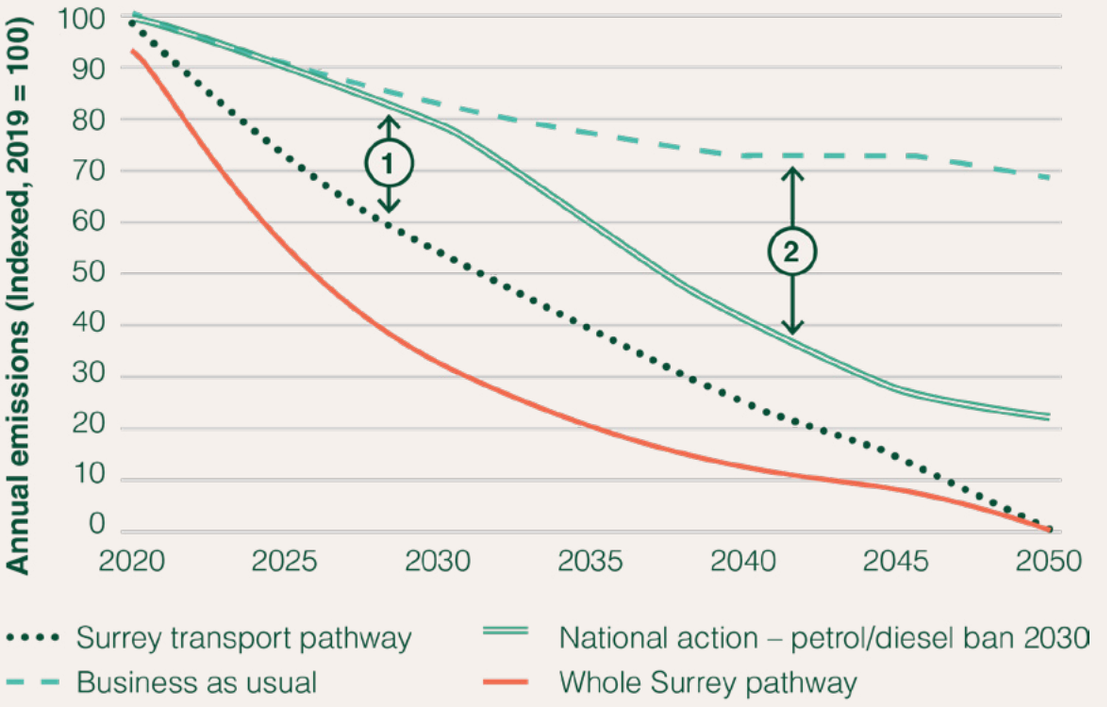


Figure 1.3 – Surrey's transport carbon emissions,
Source: Department for Business, Energy & Industrial Strategy

The Climate Change Strategy also sets a target of a 60% reduction in transport emissions by 2035 (compared to business as usual). This is a slower rate of reduction than the target set for the county as a whole, as transport carbon emissions are known to be particularly challenging to reduce.

National government action will also be important in reducing emissions, particularly the ban on sales of new petrol and diesel cars and vans from 2030 (as shown in Figure 1.4).



1. Gap to close after national action to meet Surrey transport pathway

2. Impact of national action – ban of diesel and petrol car and van sales in 2030

Figure 1.4 – Transport carbon emissions forecasts for Surrey

However, even with government action, there will still be a large gap between Surrey's forecast transport emissions and the net zero carbon pathway, particularly in the 2020s and early 2030s.

It will be the total accumulated emissions from now until 2050 that will drive climate change. The net zero carbon pathway has been defined to keep total emissions within an identified fair 'budget' for Surrey. The gap between forecast emissions and the pathway would cause the budget to be exceeded.

To reduce carbon emissions and close the gap, Surrey and its people and organisations will need to work together to make changes in where and how they travel and their use of online opportunities. This LTP4 is our response to these challenges. It sets out the measures to deliver a step change in Surrey's transport to reduce carbon emissions and bring wider benefits for the economy, local environment, and communities.

1.2.3 Surrey's economy

Surrey has a very strong, productive and innovative economy, contributing over £40 billion per year to the national economy, through above average levels of output per hour worked (Figure 1.5).

A key contributor to this economic success is Surrey's unique strategic location, bordering the two major international airports of Heathrow and Gatwick, close to London and other economically successful areas such as the Thames Valley and M3 corridor, with good access to the south coast, nationally significant roads routing through the county, and strong rail links to London.

Other key assets include a strong, increasingly digital, business base (with 99.8% of all premises in Surrey having access to broadband, compared to 97% nationally) and two world class universities (the University of Surrey and Royal Holloway, University of London).

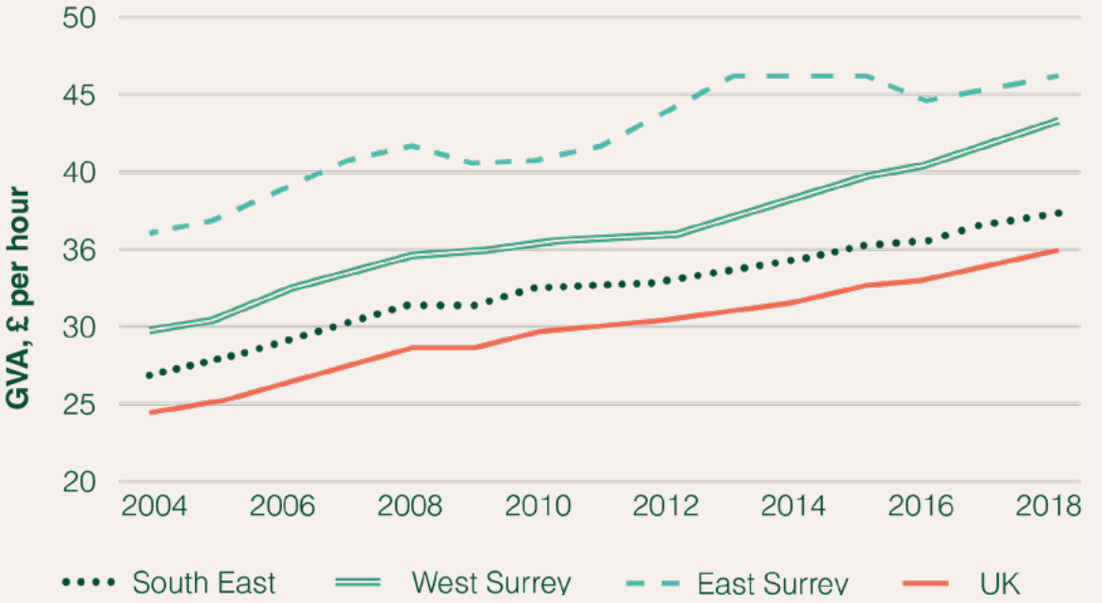


Figure 1.5 – GVA, £ per hour worked 2004 to 2018

The workforce is highly skilled and attracted to live in the area by Surrey's characteristics, including its unique physical environment and high-quality services such as health care and education.

51.8% of Surrey's working age population hold a degree-level qualification, more than the South East and national averages.

Due to these and other strengths, several international companies have located services within Surrey, including BAE, Siemens and Pfizer. Although these and other major employers are significant, a high proportion of Surrey's businesses are small or 'micro' in size.

Surrey has a number of large urban centres including Guildford, Reigate/Redhill, Staines and Woking, but no one dominant centre. Each urban area has different economic characteristics, supporting a diverse economy across Surrey.

Surrey's economy does not rely on one dominant sector, but has strengths in a number of high-value, knowledge-based and innovative sectors such as pharmaceuticals, computer gaming, artificial intelligence, digital and data, including world class specialisms such as the 5G Innovation Centre at the University of Surrey.

Many research-based businesses are located in the west of Surrey, focussed particularly around the University of Surrey and Surrey Research Park in Guildford. In contrast, the east of Surrey is highly dependent on financial and insurance services with strong links to London. This dependence reduces the area's resilience to shocks such as COVID-19.

The pandemic highlights the risk of taking our economic success for granted. There are signs that Surrey's relative performance has been weakening. New businesses in Surrey have been created at a lower rate than the national average, suggesting that the county is becoming a less attractive place for companies. GVA per person in Surrey has also grown more slowly than in the rest of the country over the last 20 years.

Although Surrey's transport connections are a key strength, they also have limitations and constraints. For instance, east to west links in the county (other than the M25) are relatively weak. Before COVID-19, high traffic levels on Surrey's main roads led to unreliable journey times and congestion, that was estimated to cost businesses £550 million per year. These levels look set to return after COVID-19.

Rail services also experienced overloading before COVID-19. About 19% of Surrey's working population commuted into London, leading to significant crowding on peak services. It is not yet clear whether these levels of demand will return post COVID-19.

Surrey also faces affordability challenges. It is the second most expensive county for housing nationally, making home-owning unaffordable for many essential workers. The quality of Surrey's environment accentuates this challenge as it limits the land available for new development.

£537,000

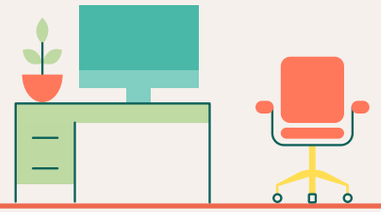
Average house price in Surrey

£298,000

National average

COVID-19 introduced several changes for Surrey's economy. For some sectors, particularly aviation, the changes have been severe. The ongoing decline of the high street was also accelerated by the changes during 2020 and 2021.

However, remote and home working has significantly increased, which could reduce the strength of Surrey's link to London and increase the presence of people and economic activity in our local centres.



Nearly **40%** of Surrey's employed residents **worked from home in April 2020**

The county council is developing a One Surrey Plan for Growth going forward. The **Place Ambition** was also developed in 2019 to guide place based sustainable growth in Surrey and is currently being updated to reflect recent changes.

The growth plans aim to support continued development of a high-value, innovative, and productive economy in Surrey, building on the opportunities offered by the move to a low carbon economy. The LTP4 will play a key role in supporting growth, in particular through the provision of good quality, reliable, resilient, sustainable connectivity.

Surrey's Place Ambition identifies eight Strategic Opportunity Areas, selected for their potential to support long-term sustainable growth (Figure 1.6).

These areas will provide the focus for investment to support priority industrial sectors and improvements to transport and digital connectivity within Surrey and to other strategic economic areas.

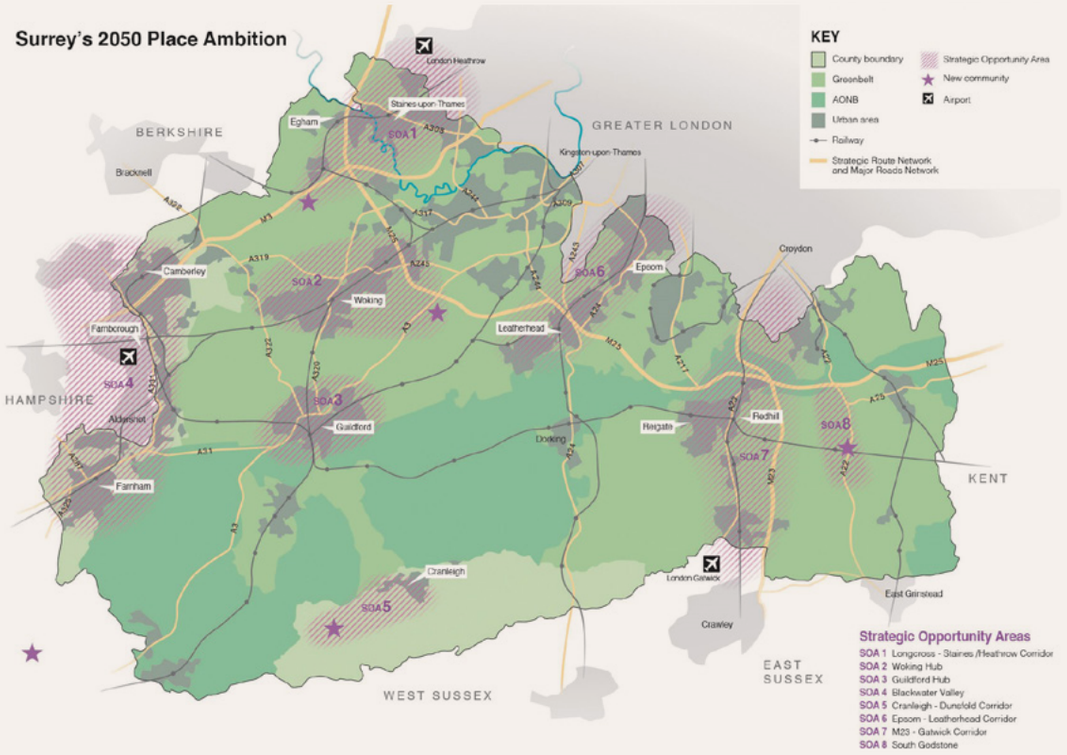


Figure 1.6 – Surrey's Strategic Opportunity Areas, Source: Surrey's 2050 Place Ambition

The LTP4's measures will also support the development of high-quality places in Surrey to provide attractive places to live and work, identified as an important element of sustainable growth in Surrey's Place Ambition. This includes producing guidance on Healthy Streets for Surrey, to deliver high quality, attractive, safe, accessible and sustainable development, that will contribute positively alongside other design elements to achieve a sense of place.

A key part of this will involve supporting good quality, sustainable access to town centres as the high street develops a 'new normal'. This is likely to include a mix of retail, leisure and commercial activities, residential units and services such as healthcare, supporting local communities and economic activity.

1.2.4 Surrey's communities

Surrey's population of nearly 1.2 million is forecast to grow significantly by 2041, including a 25% increase in those aged over 65. The county's dependency ratio (the balance between those who don't work and those who do) is forecast to reach 80% by 2041.

Our population is highly skilled, educated, and well paid when compared to south east regional and national averages.

Surrey is a largely affluent county. There are, however, pockets of deprivation (notably in the larger towns of Guildford and Epsom, in Spelthorne, and in rural areas), and issues of inequality also affect the population.

Broadly, two divides can be identified in Surrey:

- Between the more affluent built-up areas and some less affluent rural areas; and
- Between the less affluent areas in the east of the county (including Redhill, and Horley) and the remainder.

The majority of neighbourhoods in Surrey rank amongst the top 50% least deprived in the country, of which several are in the top 10% least deprived.

By comparison, the 25 most-deprived neighbourhoods in Surrey in 2015 were within the most deprived third of areas in the country. Areas bordering London (Spelthorne), larger towns (Guildford and Epsom) and rural areas are significantly less affluent than most of the county.

Furthermore, food bank usage and homelessness have both increased in recent years. Foodbank usage across the county increased over 110% between 2013/14 and 2016/17, a far higher increase than other counties in the south east.

In 2019, an estimated 23,000 children in Surrey were living in poverty. COVID-19 is likely to have worsened this situation.

There are 687,000 cars available to Surrey households, with nearly half (46%) of households having two or more cars. Only 13% of households have no car available. Of the districts, Surrey Heath has the highest car ownership levels in Surrey with 1.7 cars per household and only 10% with no car, while 56% have 2 or more. Epsom and Ewell has the lowest number of cars per household at 1.4 and the lowest proportion of households with 2 or more cars at 41%. However, car availability varies much more widely between areas within the districts.

The LTP4 will help to address the inequalities in Surrey's communities. It is aligned to the county council's strategic objective to empower communities to tackle local issues and be actively involved in decision making concerning the future of our county. This will help to deliver the **Community Vision for 2030,** meaning that residents can reach their full potential and contribute to their community, ensuring that no one is left behind.

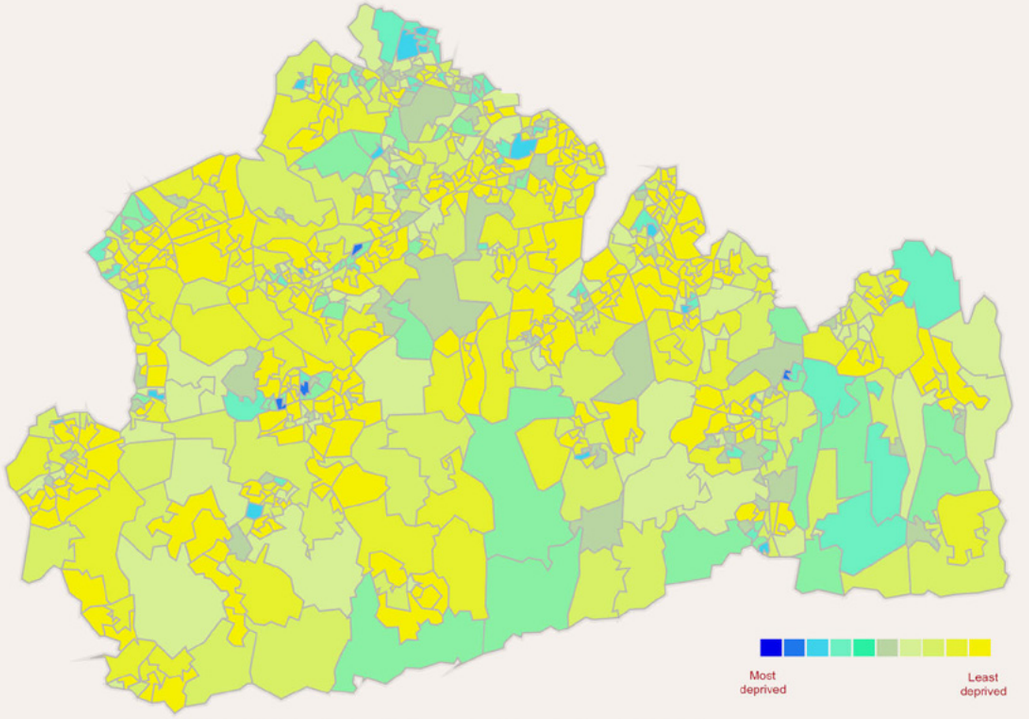


Figure 1.7 – Surrey deprivation index,
Source: Ministry of Housing, Communities & Local Government

1.2.5 Surrey's quality of life

Surrey is generally a healthy county. The life expectancy and healthy life expectancy for those in the county is higher than south east regional and national averages. This is likely to be due to factors including the affluence of the county, positive early-years health indicators, low levels of smoking and high levels of physical activity.

Surrey also benefits from nearly 3,500 km of Public Rights of Way, mostly concentrated in rural areas. These take advantage of the physical landscape of the county, in locations across the AONBs of the Surrey Hills and High Weald. Access to green space and countryside is essential for both good physical and mental health, leading to an improved quality of life.

25.3%

of people in Surrey live within **500 metres** of an accessible woodland area, compared to **16.8%** in England

Health in Surrey

70% of Surrey's adults are classed **'physically active'** (150+ minutes of activity per week), exceeding regional and national averages

Only **18.6%** of Surrey's adults are classed **physically inactive** (<30 minutes of activity per week) less than the regional and national averages.

17.3% of children in reception year in Surrey are **overweight or obese,** below the national average of 23.0%

Source: Surrey 2030 Vision Evidence Base, 2019 and Surrey Health and Wellbeing Strategy, 2020

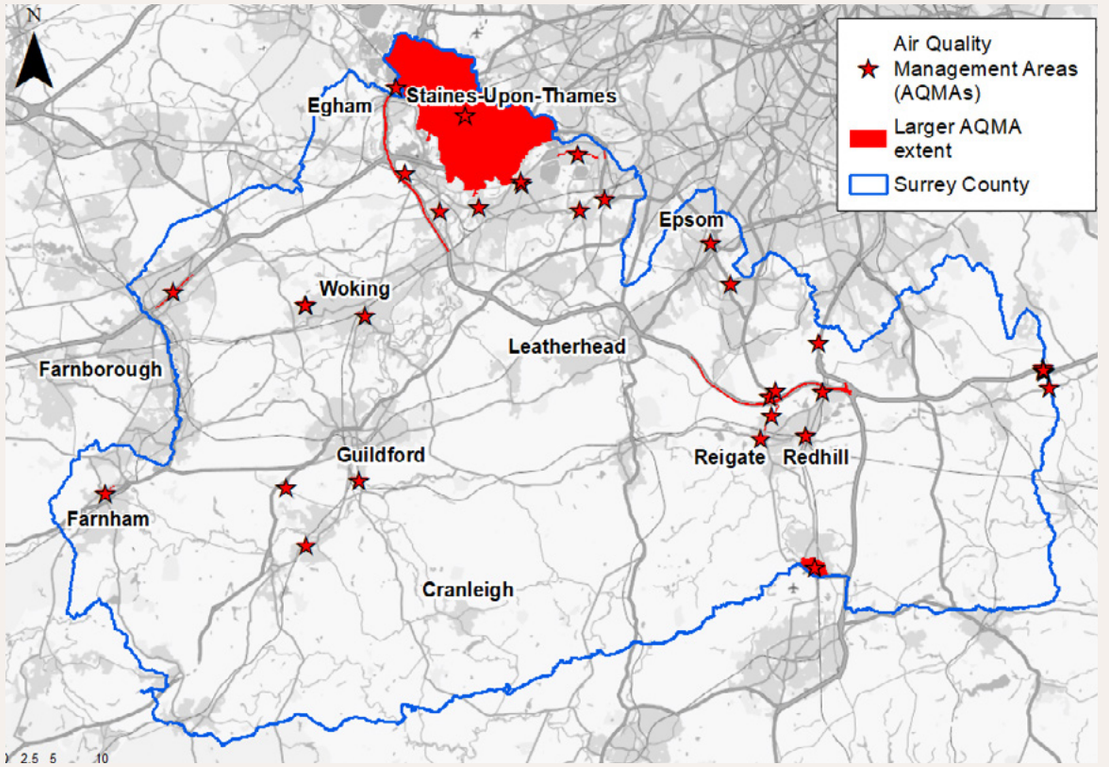


Figure 1.8 – Air Quality Management Areas, Source: Defra UK Air, AQMA map

Looking specifically at the health impacts of transport, road transport is the main source of NOx emissions and a significant source of emissions of particulate matter.

Both these pollutants have a significant negative impact on people's health, for example respiratory illness, childhood asthma and premature death from related conditions.

On average, Surrey's air quality is better than the national average, with an index of accessibility to air quality score of 26.1 compared to 26.8 nationally. However, there are 27 Air Quality Management Areas identified across Surrey (see Figure 1.8) and particulate emissions were estimated to account for 5.7% of mortality in Surrey in 2018. North Surrey's air quality is significantly worse than south Surrey's with index scores ranging from 46.9 in Spelthorne to 12.8 in Waverley, compared to the county average of 26.1 (see Figure 1.9).

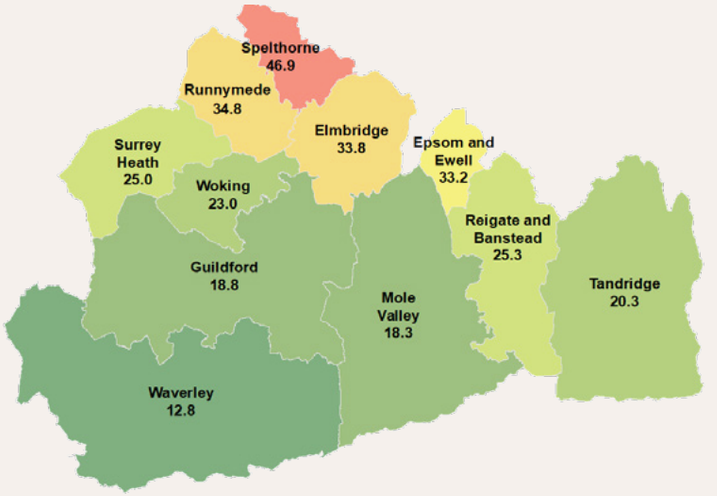


Figure 1.9 – Index of air quality across Surrey, Source: Customer Data Research Centre, Access to Healthy Assets and Hazards (AHAH) Air Quality Domain

Road transport also contributes to the 380 Noise Important Areas (areas where people are most affected by transport noise) identified throughout the county, and the associated negative impacts on the health and wellbeing of Surrey's people.

This LTP4 will encourage and facilitate a reduction in road vehicle use, an increase in zero emissions vehicle use and an increase in healthier forms of travel such as walking and cycling. Combined, these behaviour and technology changes will help to significantly improve air quality, along with physical and mental health across our county.

1.2.6 COVID-19 response

The COVID-19 pandemic has had significant impacts on travel patterns.

Across Surrey, as in the rest of the country, there was a dramatic decrease in travel volumes during the first lockdown in March 2020. Traffic showed a 68% decrease compared to March 2019. Through several stages, traffic levels had returned to largely equivalent to pre-pandemic levels by February 2021.

However, public transport use has only partly recovered since the first lockdown. Google mobility data suggests that activity in and around bus and rail stations remained more than 45% lower than pre COVID-19 levels in April 2021.

There remains considerable uncertainty regarding future travel trends as we emerge from COVID-19 restrictions. Long term impacts may include:

- Fewer commuting and business trips due to increased levels of remote working;
- More flexible working hours that allow people to avoid rush hour traffic;
- A reluctance to return to public transport; and
- Increased levels of walking and cycling in local areas.

The shorter-term effects, and the responses to these, could have long lasting ramifications. The decisions made as we recover from the COVID-19 pandemic could shape the economy, society and transport system for the next decade and beyond.

The changes of 2020 and 2021 also provide an opportunity to rethink the way we travel in the future and 'lock in' the positive behaviours and impacts of reduced travel.

Many Surrey residents responding to a county council survey in November 2020 identified an increased appreciation of walking and cycling in their local area and green spaces as one of the positive outcomes of lockdowns. Nearly half expected to continue to walk and/or cycle more often in future.

If we are able to build on these changes, we will help to address the challenges presented by the climate emergency and bring wider benefits of improved local environments and quality of life for Surrey's people.

Consideration of the impacts of COVID-19 and the rapidly altering economic and social landscape has played an important role in developing the LTP4. For instance, a key consideration has been ensuring resilience is built into Surrey's transport network to help mitigate the effects of factors like COVID-19 in the future, to enable effective, sustainable, and safe travel for all.

1.2.7 Surrey's transport networks

Due to Surrey's location, our transport networks are important both regionally and nationally. The proximity to London, the major airports of Heathrow and Gatwick, and connections from the ports of Portsmouth and Southampton mean that Surrey's infrastructure contributes to connectivity at a national and international level.

There are several nationally important roads in Surrey, such as the M25, M23, M3, and A3. However, the road network is not without its issues. There are high congestion levels across the county and Surrey's roads carry over 60% more than the national average amount of traffic.

Average annual daily traffic for locally managed roads
(i.e. excluding motorways and trunk roads)

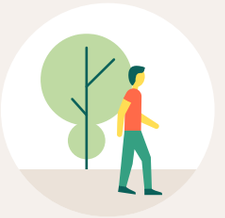
Average annual daily traffic for all roads
(including motorways and trunk roads)

Before COVID-19, around 60% of Surrey's working population commuted by car (Figure 1.10), many for a distance of less than 10 kilometres, contributing to this congestion.

The 2011 Census shows that, of the working age population (people aged 16 to 74):

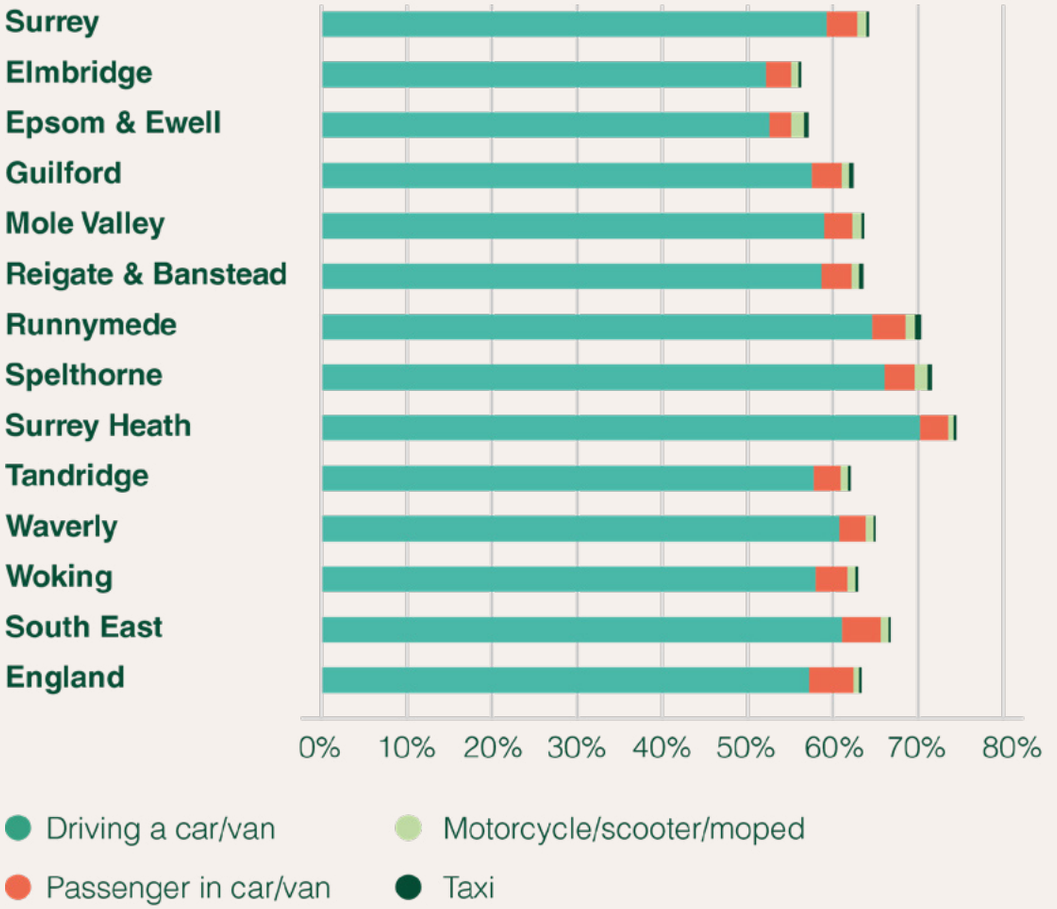
over 60%
travelled to work by car or van

17%
used public transport



11%
walked or cycled to work

Figure 1.10 – Mode of travel to work 2011, Source: Surrey-i



Surrey has numerous cycle routes, footpaths and Public Rights of Way, along with over **300** different sites with **cycle parking.**

Surrey was also home to the London 2012 cycling route, as well as the annual Ride London event for 9 years. However, Surrey's residents walk and cycle to work less than the national or regional averages, with 10.8% of working adults walking and cycling to work compared with 13.7% nationally and 13.9% regionally. By borough proportions travelling to work by walking or cycling vary between Guildford with 14.6% and Tandridge with just 7.8%.

Public transport services in Surrey connect populated areas and towns well, although more rural areas experience poor connectivity and a low frequency of bus services. In terms of the rail network, there are 84 railway stations in the county. Many are on routes that connect north east Surrey to the main London termini of London Waterloo, London Victoria, and London Bridge, as well as down to the south coast at Brighton and Portsmouth. Due to high volumes of London commuting, pre-COVID-19 levels of use caused issues with capacity at peak times.

Regarding road safety, Surrey has been reasonably successful in reducing casualties on the road network in recent years but there is more to do. Road safety, speeding, and anti-social driving remain a prime concern of Surrey's residents. The reported casualty rate per billion vehicle miles for England, the South East and Surrey has been decreasing since 2009. For England the figure has decreased by around 280, Surrey a decrease of around 250 and the South East around 200.

1.2.8 Future transport trends

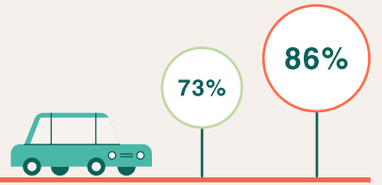
Demand for travel is currently closely linked to population growth. The UK's population is forecast to grow by four million by 2030 to a total of 70.4 million. This is likely to add further pressure on existing transport systems. London is expected to account for 22% of this increase with the south-east region accounting for 18%.

The government have set a target of nearly **7,000 new houses** per year in Surrey over the next 10 years (about twice previous delivery rates).

Surrey's transport network will need to accommodate the county's growth, alongside the rapid rates of growth anticipated in London and other neighbouring communities such as Aldershot.

Furthermore, Surrey has an ageing population. Those over the age of 70 are expected to increase from 13% in 2016 to 17% by 2031. Travel demand from this growing age group is set to increase with a trend towards a more active retirement. For rural areas especially, this means greater use of the private car.

Car ownership in Surrey is **86%** compared to the national average of **73%** and continues to rise.



Congestion on the motorways and major 'A' roads in Surrey is a major economic, social and environmental issue, which is likely to increase with projected population growth.

Electric Vehicle (EV) uptake has increased in the UK from **2,254** new registrations in 2012 to almost **110,000** in 2020.

Surrey has a high propensity of EV uptake based on several factors including population affluence, levels of second car ownership, and commuting distance.

In the UK there is around one public charge point for every eight EV's; however, this is not evenly distributed.

There is a relatively high concentration of charge points in Surrey with over **200** charge points in **60** locations. This is set to increase significantly going forward.

Connected and Autonomous Vehicles (CAVs) are developing rapidly with ever more advanced vehicles on the road. Surrey's network will need to be ready to accommodate these vehicles although there remains considerable uncertainty around how the technology will develop and how it will interface with existing infrastructure and digital connectivity.

There is evidence of remote working increasing over the last decade with the amount of business space falling since 2008. Once the longer-term implications of changes during COVID-19 are felt, it is expected that remote working will have increased even further.

1.3 Policy and strategy review summary

A review of numerous relevant national, sub-national and local policies and strategies, including those summarised in **Figure 1.11,** has identified some clear themes for this LTP4:

- **Setting a clear transport carbon pathway** towards net zero carbon emissions by 2050 (and intermediate 60% reduction by 2035) to achieve Surrey's transport commitments set out in our **Climate Change Strategy;**
- **Providing an overarching roadmap** to set out how transport can support achievement of other policies including **Surrey's Community Vision for 2030** and **Surrey's Health and Wellbeing Strategy;**
- **Aligning the LTP4 to Surrey's Place Ambition** in recognition that effective land use planning and planning for places and local communities is an essential tool in achieving the LTP4 objectives, particularly the shift in transport trends required to achieve net zero carbon emissions by 2050;
- Using measures across all three of the **Avoid, Shift and Improve principles** to achieve our goals;
- Recognising the need for the LTP4 to **reflect the unique qualities of Surrey** as a place and of its people, identifying transport measures that suit the county and its setting;
- **Understanding that as Surrey seeks to grow economically** and develop over the period of this LTP4, the need to focus on ensuring this growth is sustainable and takes full consideration of Surrey's people and environment; and
- **Referencing the COVID-19 pandemic** and the challenges and opportunities this brings for the LTP4 period.

These focus areas have guided the development of this LTP4 and its vision and objectives, as described in **Section 2.**

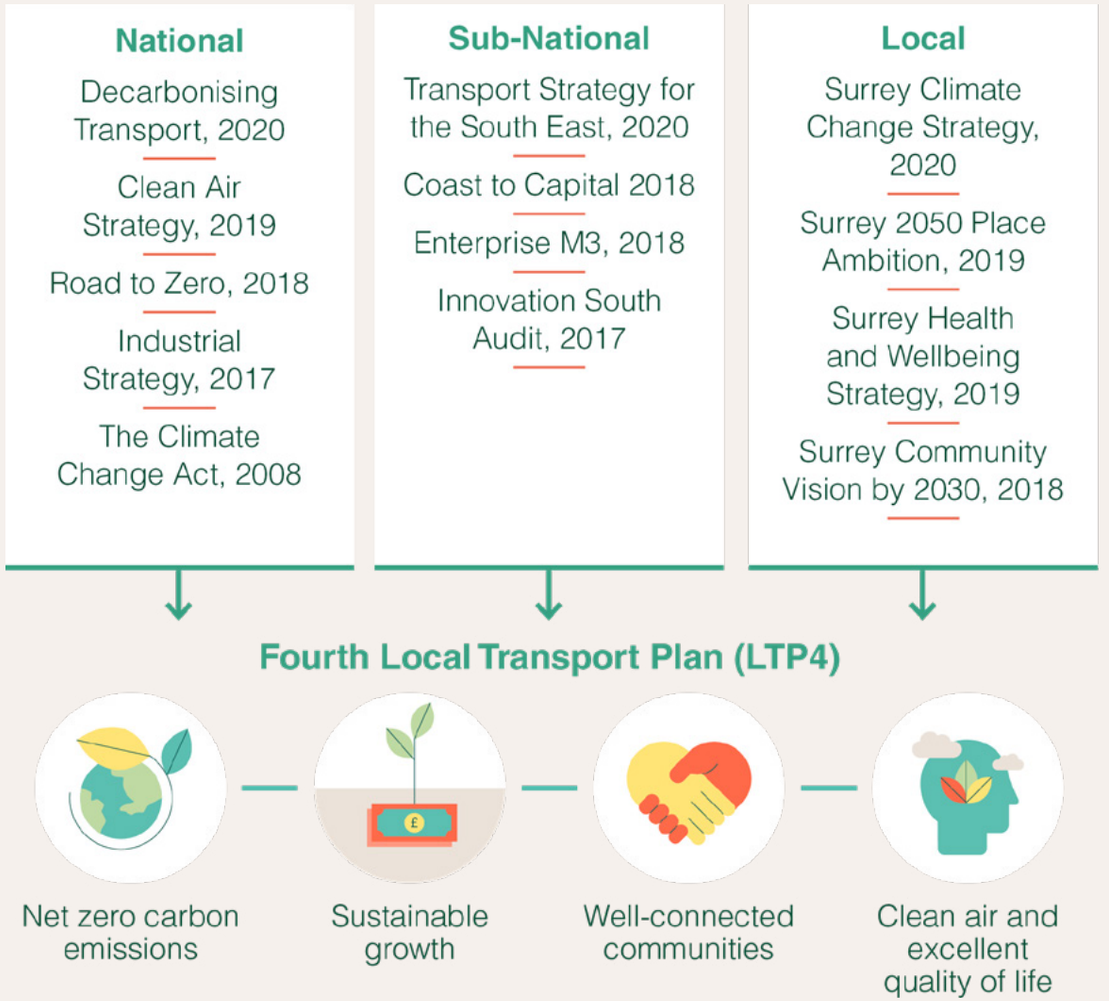


Figure 1.11 – Summary of policy and strategy review

1.4 LTP4 challenges

We have identified four key challenges to which this LTP4 must respond to achieve our ambitions for Surrey:

- An urgent need for action to **respond to the climate emergency** and meet the county council's commitment to net zero carbon in 2050;
- An aspiration to **achieve sustainable growth** in line with population projections and local policy ambitions;
- A responsibility to **address areas of inequality** in social mobility and pockets of deprivation experienced across the county; and
- An ambition to further **improve health, wellbeing,** air quality and quality of life for residents.

These challenges are summarised in Table 1.1 on the following page, alongside examples of where these challenges have been identified.

Challenge	Drivers
An urgent need for action to respond to the Climate Emergency and meet the county council's commitment to net zero carbon in 2050	As defined in the 2019 Climate Emergency Declaration.
	Climate Change Strategy: • Surrey is committed to delivering net zero carbon emissions by 2050; • Surrey has a target for 60% emissions reduction in the Transport sector by 2035, relative to business as usual; and • If Surrey does nothing, at the current rate of emissions Surrey would use up its carbon budget in just over eight years.
	Community Vision for 2030: *"Residents live in clean, safe, and green communities, where people and organisations embrace their environmental responsibilities".*
An aspiration to achieve sustainable growth in line with population projections and local policy ambitions	**Community Vision for 2030, and associated evidence base:** • Surrey's population of 1,194,500 is expected to grow to 1,264,000 by 2030 **Surrey Place Ambition objectives include:** • For businesses in Surrey to thrive; and • For Surrey's communities to be well-connected, with effective infrastructure and growing sustainably.

Table 1.1: LTP4 Key challenges to address

Challenge	Drivers
A responsibility to address areas of inequality in social mobility and pockets of deprivation experienced across the county	**Community Vision for 2030, and associated evidence base** **Vision that by 2030:** • Surrey will be a uniquely special place where everyone has a great start to life, people live healthy and fulfilling lives, are enabled to achieve their full potential and contribute to their community, and no one is left behind; and • Everyone will benefit from education, skills and employment opportunities that help them succeed in life. **Current challenges:** • The 25 most deprived areas in Surrey in 2015 ranked within the most deprived 1/3 of areas in the country; and • Foodbank usage across the county increased 111% between 2013/14 and 2016/17, a far higher increase than other counties in the south east.
	Health and Wellbeing Strategy **Objective:** • Address the root causes of poor health and wellbeing, address inequality of life expectancy, and improve quality of life. **Current challenge:** • In 2019, 23,000 children in Surrey are living in poverty, and 10,600 children aged 5 to 15 have a mental health disorder.

Challenge	Drivers
An ambition to further improve health, wellbeing, air quality and quality of life for residents	**Community Vision for 2030** Everyone lives healthy, active, and fulfilling lives, and makes good choices about their wellbeing.
	Health and Wellbeing Strategy Represents collaborative working to • Address the root causes of poor health and wellbeing, • Address inequality of life expectancy, and improve quality of life; and • Support people to become healthy and proactive and take ownership of their health.
	Surrey Infrastructure Plan, Baseline Report Forecasts an increase in the dependency ratio (the balance between those who don't work and those who do) in Surrey from 64% to 80% by 2041.
	Climate Change Strategy Priorities for climate change will also bring about significant improvements in air quality and health of residents.
	Low Emissions Transport Strategy Surrey had 24 declared AQMAs in 2018, all of which have been declared in relation to excessive NO2. This figure is now 27 AQMAs.

1.5 Scope of the LTP4

The main role of transport is to provide access to opportunities, services and activities such as working, shopping, and socialising. The LTP4 aims to improve Surrey's **transport system** to better accessibility and meet other objectives, but also recognises that accessibility can be improved (see Figure 1.12) through:

- **place making:** bringing activities and opportunities closer to people through land use planning; and
- **digital connections:** broadband and mobile connections to allow online accessibility.

This LTP4 includes measures to improve accessibility in all of these ways, accounting for rapid development in technologies and the opportunities that they provide for all forms of accessibility, meaning that it is wider reaching than previous Surrey transport plans.

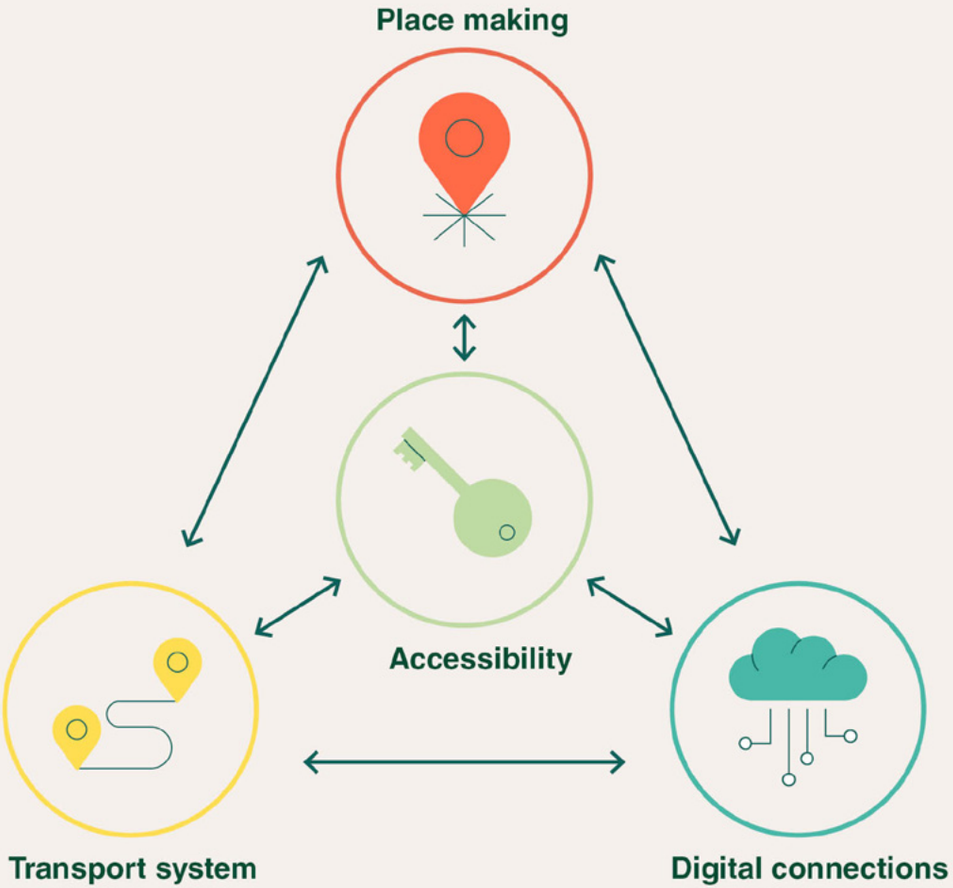


Figure 1.12 – Three ways to improve accessibility (based on Triple Access System, Glenn Lyons & Cody Davidson, 2016)

Vision and objectives

Vision and objectives

The vision and objectives that the LTP4 aims to achieve are derived from the four challenges identified from the review of evidence and policy and from our county aspirations (see Section 1).

2.1 Vision

The LTP4 marks a step change for transport in Surrey, providing an opportunity to refocus and realign our transport policy to a unifying vision.

The vision sets out our aspiration for the transport system in Surrey in 2032 and beyond:

"A future-ready transport system that allows Surrey to lead the UK in achieving a **low-carbon, economically prosperous, healthy and inclusive county** with **excellent quality of life** for all residents, whilst seeking to enhance the built and natural environments."

2.2 Objectives

We have identified four objectives to help guide the LTP4 in delivering the vision. Each objective focuses on one key challenge identified from our evidence base, as set out in **Section 1**, providing a structure for the LTP4 that follows our priority areas as a county.

Figure 2.1 – Drivers and Objectives

Surrey's **Organisation Strategy** (December 2020), sets out our contribution to achieving the aims and ambitions of the **Community Vision** for 2030. The strategy focusses on a set of priority objectives to set out a clear strategic direction for us as the county council.

These priority objectives are based on extensive research and engagement with residents, businesses and partners. This has enabled us to develop a robust evidence base to understand the impact of COVID-19, the challenges and opportunities for residents, and how the future priorities for the county council can be targeted at these. To help us to continue to deliver the long-term aims for the county, the four priority objectives that form our new focus are:

Enabling a greener future

Growing a sustainable economy so everyone can benefit

Empowering communities

Tackling health inequality

The LTP4 objectives are fully aligned with these strategic priorities for the next five years, as shown in Figure 2.2. The LTP4 provides the roadmap for transport to achieve our 'enabling a greener future' priority.

Organisation Strategy Priority Objectives

Enabling a greener future

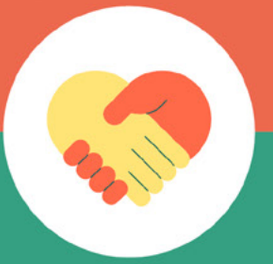
Build on behaviour changes and lessons learnt during lockdown to further progress work to tackle environmental challenges, improve air quality and focus on green energy to make sure we achieve our net zero targets.

Growing a sustainable economy so everyone can benefit

Support people and business across Surrey to grow during the economic recovery and re-prioritise infrastructure plans to adapt to the changing needs and demands of residents at a time of financial challenges

Empowering communities

Reinvigorate our relationship with residents, empowering communities to tackle local issues and support one another, while making it easier for everyone to play an active role in the decisions that will shape Surrey's future.



Tackle health inequality

Drive work across the system to reduce widening health inequalities, increasing our focus on addressing mental health and accelerating health and social care integration to reduce demand in services while improving health outcomes for residents.

LTP4 Objectives

Net zero carbon emissions

To rapidly reduce carbon emissions, ensuring that Surrey is on track for net zero emissions by 2050.

Sustainable growth

To support Surrey's growth ambitions and enable business and people to prosper sustainably.

Well-connected communities

To provide well connected communities that encourage social mobility and ensure no-one is left behind.

Clean air and excellent quality of life

To create thriving communities with clean air, excellent health, wellbeing and quality of life.

Figure 2.2 – Our strategic priorities

Policy areas

Policy areas

3.1 Policy areas to reduce carbon

Given the scale of challenge we face to reduce carbon and meet our county targets, rapid carbon reduction has been prioritised as the most important objective of the LTP4.

Achieving this goal will require a broad mix of policies and measures. This LTP4 groups those measures under nine Policy Areas. The Policy Areas will reduce carbon emissions by reducing the amount of travel by motorised vehicles and the emissions produced by every kilometre travelled.

The Policy Areas cover measures which **Avoid, Shift** and **Improve** travel, as shown in Figure 3.1, Figure 3.2 and Figure 3.3, and support improvements in all three types of accessibility:

- Place making;
- Digital connections and;
- The transport system – as shown in **Figure 1.12.**

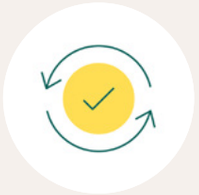
Avoid, shift, improve principles for carbon reduction

Avoid

Reduce the number and length of trips needed by improving land use planning, travel planning and levels of digital connectivity.

Shift

Shift travel to more sustainable modes: public transport, walking, and cycling, away from car use.



Improve

Improve emissions intensity and energy efficiency of vehicles and operational efficiency of roads through technology improvements.

Figure 3.1 – Avoid, shift, improve principles for carbon reduction

The carbon reduction potential of the Policy Areas is described further on in the LTP4, in the **Carbon Reduction Impact Strategy.**

All nine Policy Areas are necessary to reduce carbon emissions across Surrey **at the pace and scale required to achieve net zero carbon by 2050** and the interim target of a **60% reduction by 2035.**

Accessibility	Policy Area	Principle
Place making	Planning for place (localisation)	Avoid
Digital connections	Digital connectivity	Avoid
Transport system	Active travel / personal mobility	Shift
	Public / shared transport	Shift
	Demand management for cars	Shift
	Demand management for goods vehicles	Shift
	Efficient network management	Improve
	Promoting zero emission vehicles	Improve
	Supporting behaviour change	All

Figure 3.2 – LTP4 Policy Areas

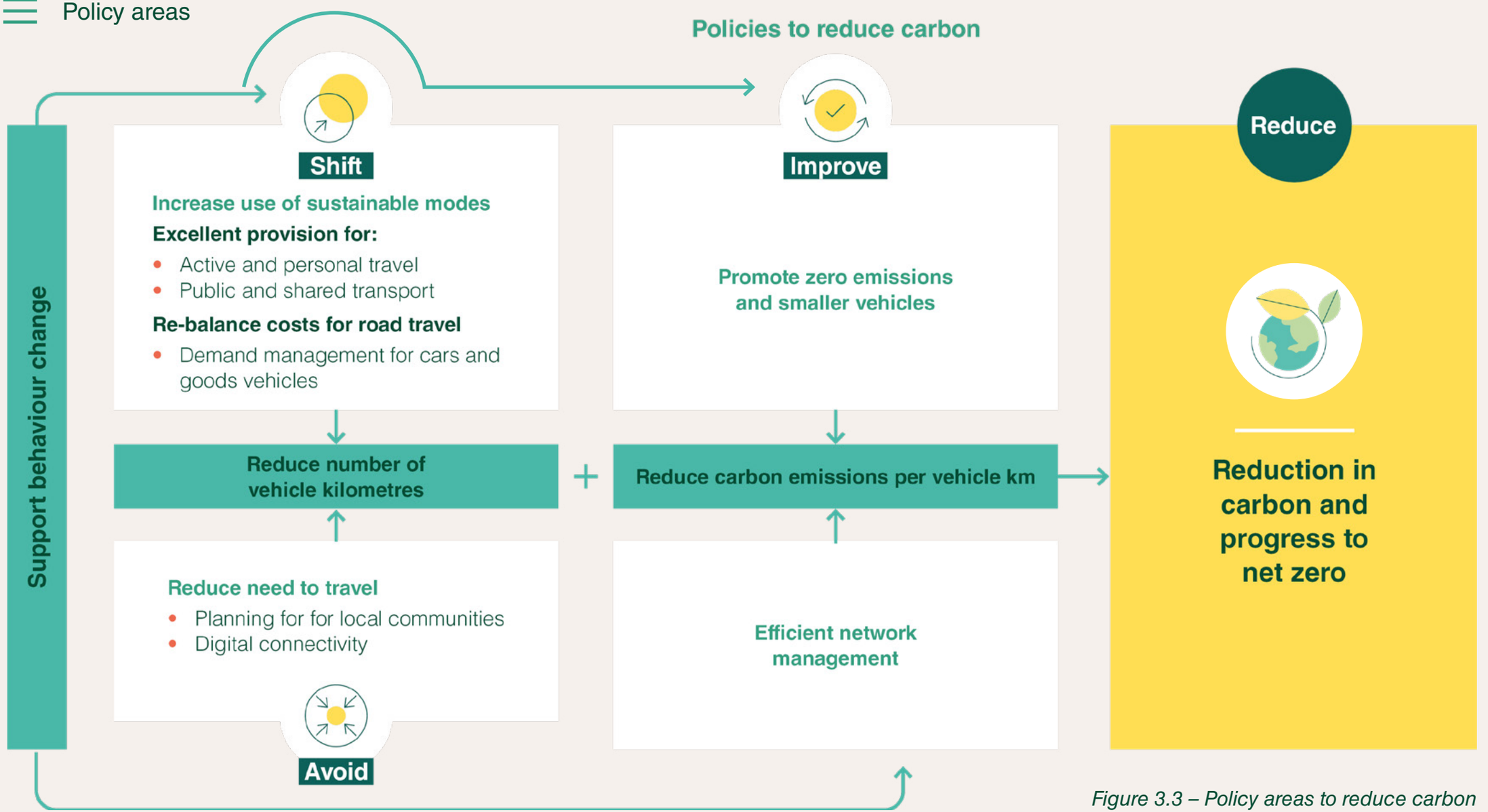


Figure 3.3 – Policy areas to reduce carbon

3.2 Contribution of Policy Areas to LTP4 objectives

Each of the nine Policy Areas also contribute to Surrey's other objectives: sustainable growth, communities and social mobility, and quality of life.

Logic maps have been used to show how each Policy Area will contribute to each objective.

Each logic map shows the routes through which the Policy Areas are expected to deliver the objective. The logic maps are shown below:

- Carbon reduction is shown in **Figure 3.4;**
- Sustainable growth is shown in **Figure 3.5;**
- Community and social mobility is shown in **Figure 3.6;** and
- Quality of life is shown in **Figure 3.7.**

3.3 Sustainability in the LTP4

Transport is at the core of delivering sustainability in Surrey.

The four LTP4 objectives reflect how social, economic and environmental sustainability can be supported through:

- **Minimising carbon** and local pollutant emissions from vehicles;
- **Supporting strong and equitable economic growth** and access to jobs and skills, helping to improve equality in the community;
- **Supporting social mobility** and connected communities; and
- **Improving quality of life** through improved air quality, health and accessibility.

The nine Policy Areas identify ways in which improving the travel and accessibility options available in Surrey, and changing behaviour on a day to day basis, can achieve the LTP4 objectives and improve sustainability. Implementing the Policy Areas will require maintenance and operation of the existing transport network and may require construction or enhancement of infrastructure. Wherever new infrastructure is required, or plans are made for maintenance or operation of the existing transport network, we will assess the potential impact.

We will have a presumption in favour of making net improvements to the local environment and, as a minimum, always following our environmental policies to take every opportunity to protect and enhance the environment.

We will always seek to reduce or avoid adverse environmental, economic or social impact where possible and this will be a key consideration from the earliest development of any transport measure. Therefore, all new and upgraded infrastructure, maintenance and operation regimes will, wherever possible, be designed and specified to:

- **Reduce embodied carbon emissions,** including through choice of materials and treatment of waste more generally, and partly through use of recycled materials;
- **Improve air quality,** including through green infrastructure;
- **Build in resilience to climate change,** particularly flooding and temperature extremes;
- **Protect and enhance valued places,** including those valued for their contribution to our biodiversity, landscape, townscape and historic environment; and
- **Protect and enhance natural resources,** including protecting soil, land and water and promoting circular economy principles for resource use and waste.

Further details are provided in Section 3.14 and our accompanying Integrated Sustainability Appraisal (ISA).

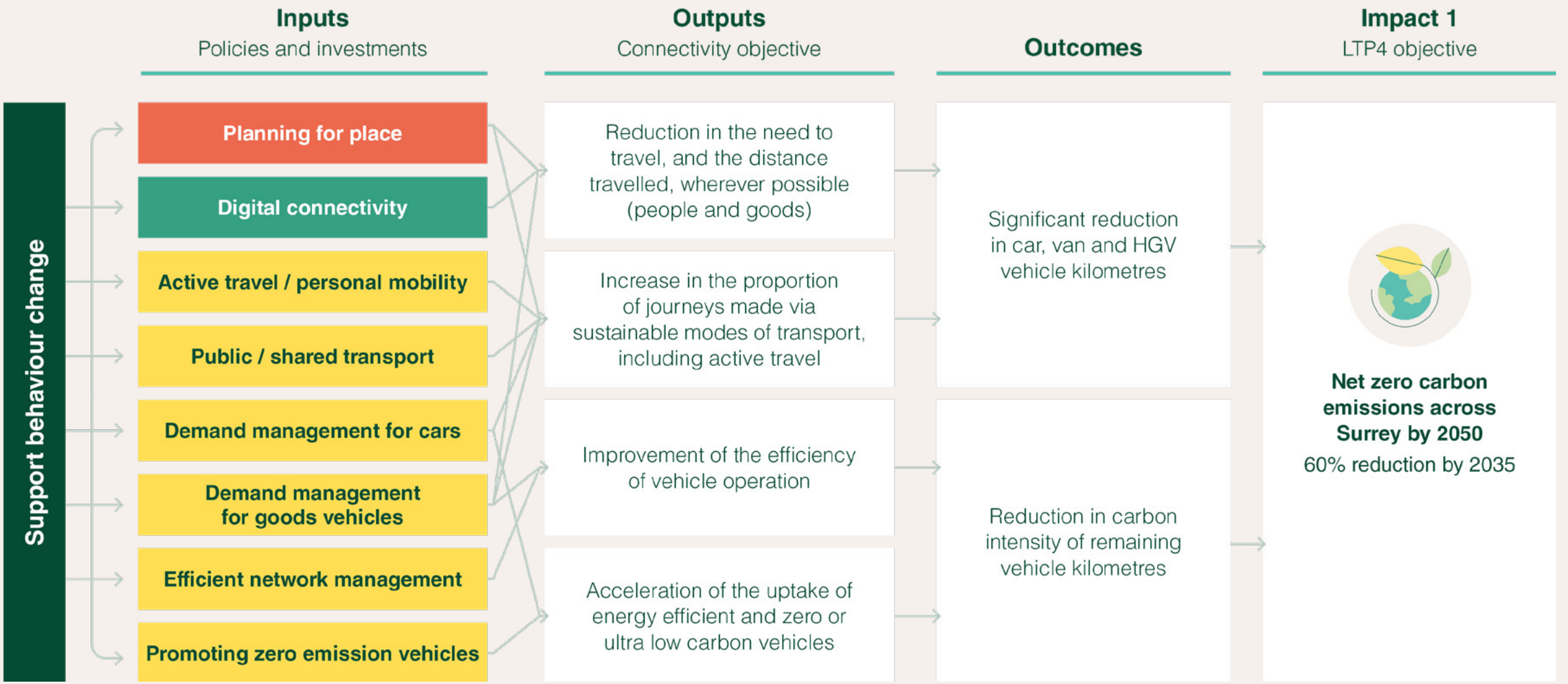


Figure 3.4 – Logic map for Objective 1: To rapidly reduce carbon emissions, ensuring that Surrey is on track for net zero emissions by 2050

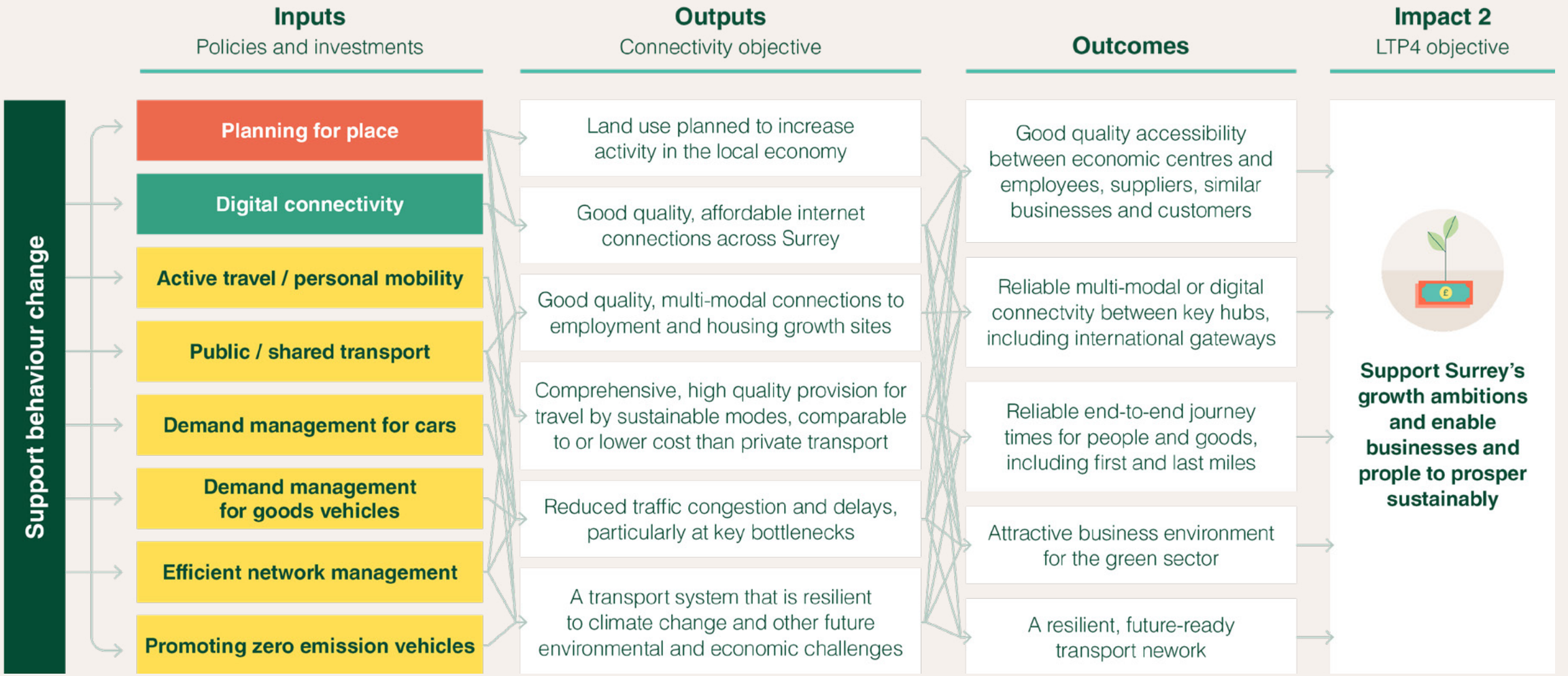


Figure 3.5 – Logic map for Objective 2: To support Surrey's growth ambitions and enable businesses and people to prosper sustainably

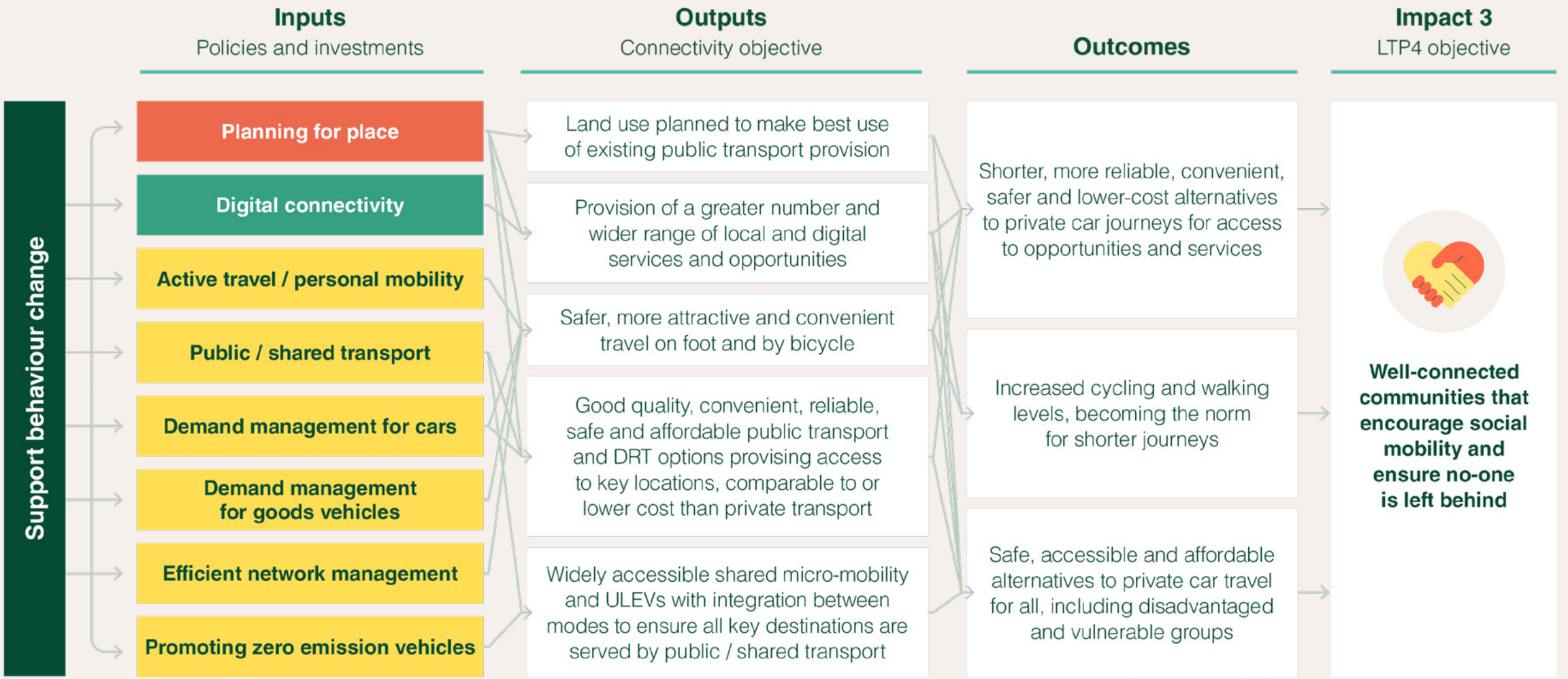


Figure 3.6 – Logic map for Objective 3: To provide well-connected communities that encourage social mobility and ensure no-one is left behind

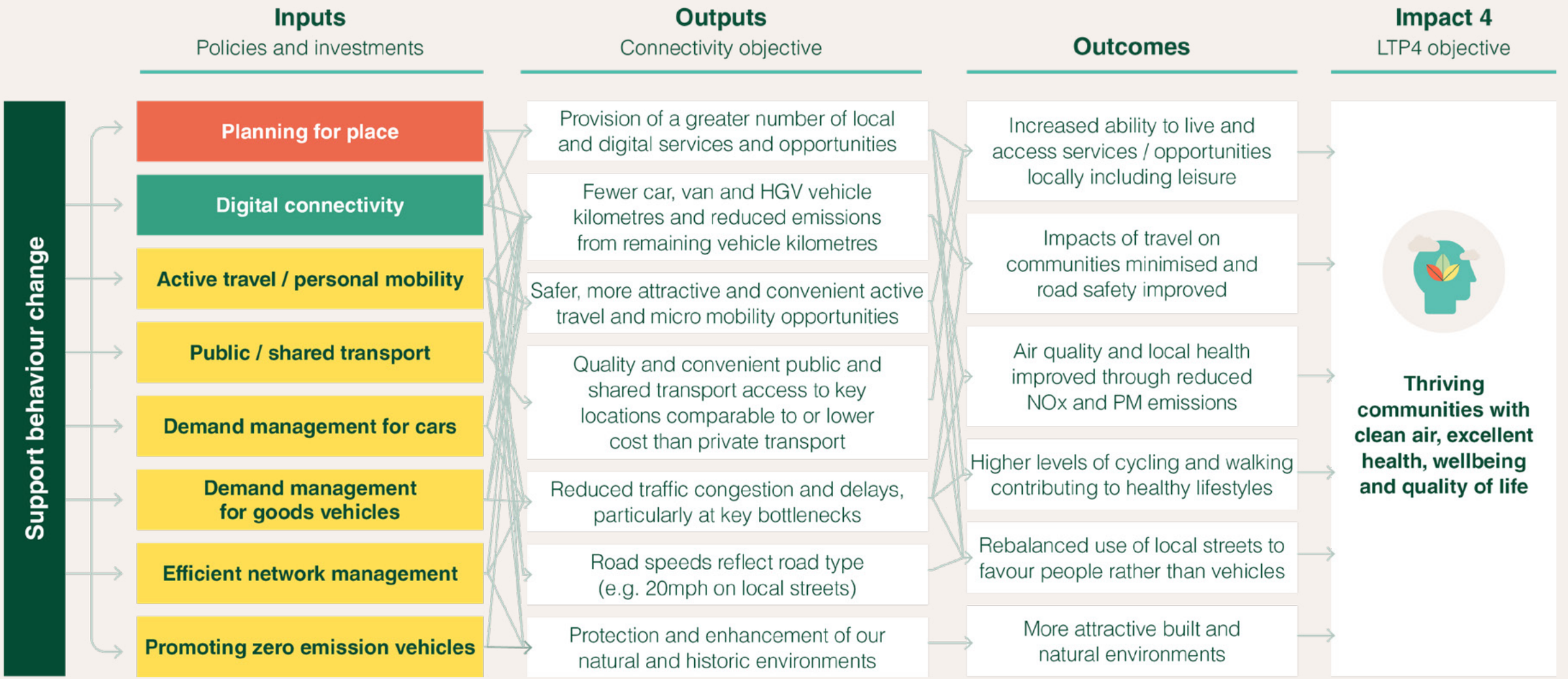


Figure 3.7 – Logic map for Objective 4: To create thriving communities with clean air, excellent health, wellbeing and quality of life

3.4 Policy Area summary

Figure 3.8 summarises the LTP4.

It shows how the Policy Areas to deliver the LTP4 objectives sit within the Avoid, Shift, Improve principles and how sustainability is incorporated into their delivery.

Table 3.1 provides a summary of each Policy Area. Further information is given in each of the subsequent Policy Area sections.

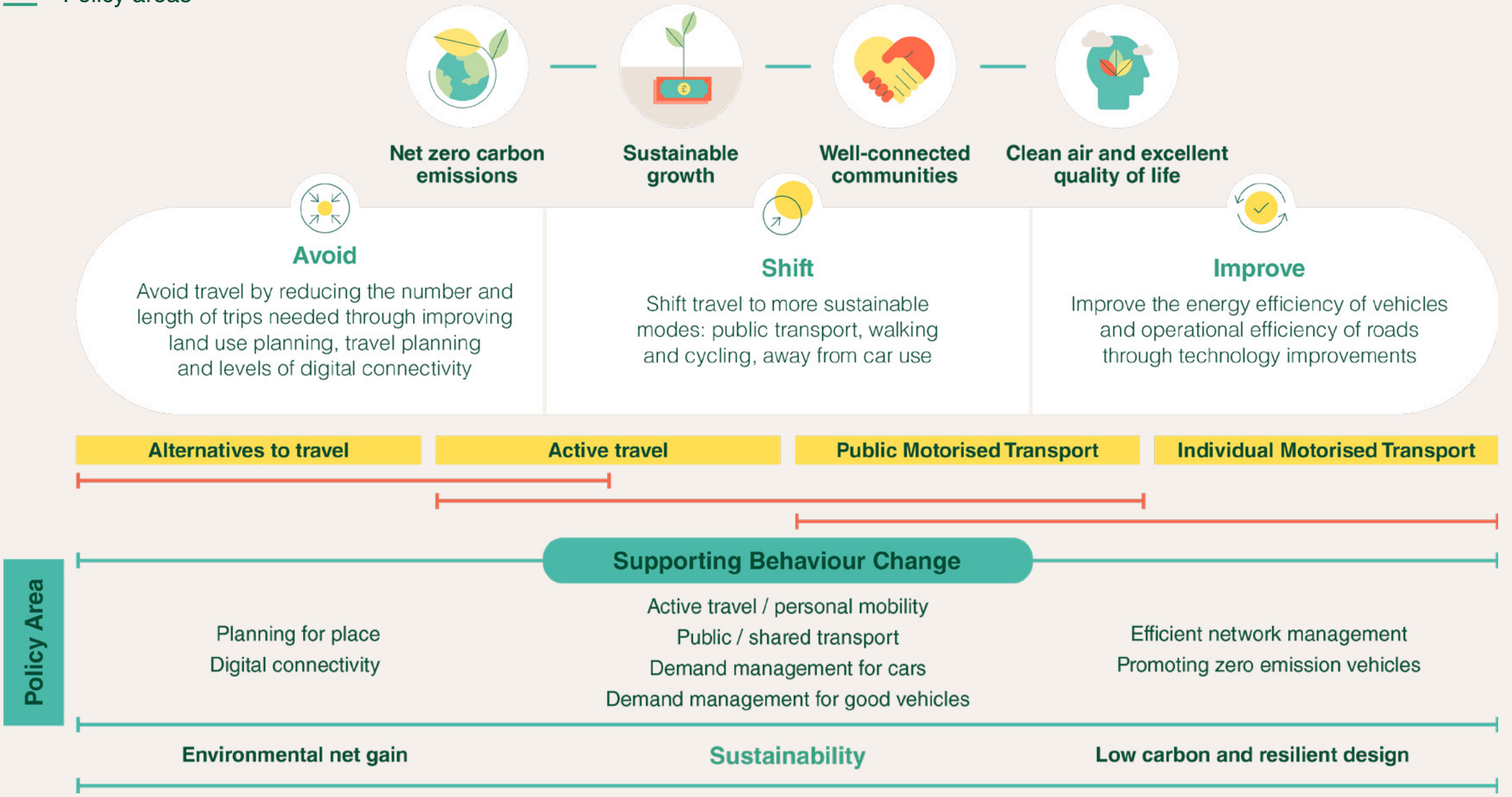


Figure 3.8 – LTP4 Overview

Policy Area	Principle	Description	Measures	Explanation
1. Planning for Place	Avoid 	**Design and improve local neighbourhoods and other parts of towns and villages to provide attractive environments for people and increase opportunities to live and work locally.**	• Establish '20-minute neighbourhoods' • Develop a Surrey street family framework • Ensure that new development is focussed around sustainable travel options	Redesigning existing neighbourhoods and designing new ones to provide attractive local public spaces, and more local community, educational and other facilities. These areas are termed 20-minute neighbourhoods, as they can help people to meet the majority of their needs locally, within a 20-minute walk or cycle ride. This leads to less travel overall and makes travel by non-car modes a more attractive option. More local services and walking and cycling can help to reinvigorate local communities and achieve health benefits. This should be supported with planning to improve accessibility by active/public/shared transport (Policy Areas 3 and 4).
2. Digital Connectivity	Avoid 	**Promote and encourage: access to high quality digital connectivity for all; and provision of online public and community services.**	• Support extensive rollout of fibre broadband and 5G mobile coverage. • Support development and raise awareness of online opportunities and services	Reliable, high-performance digital connectivity (such as fibre broadband and comprehensive 5G coverage) improves access to education, training, and employment opportunities as well as access to online community services and travel information. Digital connectivity can therefore support inclusivity and social mobility, as well as reduce the need to travel.

Table 3.1 – The LTP4 Policy Areas

Policy Area	Principle	Description	Measures	Explanation
3. Active Travel/ Personal Mobility	**Shift** 	**Provide facilities to encourage many more journeys to be made actively (on foot, by bicycle, scooting etc).**	• New, extended and improved routes • Supporting facilities • Measures to encourage change on longer journey • Measures to increase awareness and safety • Hire schemes • E-Cargo bikes	Delivery of facilities which make active travel (on foot, by bicycle, scooting etc.) more convenient, pleasant, and safe will mean more active journeys, bringing many transport, health and environmental benefits. Such facilities include an integrated and high-quality network of cycle routes and footpaths across the county, segregated from general traffic wherever possible. Elsewhere roads can be made more people-friendly through better design, giving more space to active modes, and lowering speed limits where appropriate. Secure cycle parking, bike hire and promotion of electric and cargo bikes will also help to increase uptake.
4. Public/Shared Transport	**Shift** 	**High-quality, reliable, affordable and joined up public, shared and demand responsive transport, supported by accessible and easy to use travel information and booking systems.**	• Improving, integrating and simplifying services • Improving journey time reliability • Simplifying ticketing and fares • Improving accessibility and safety • Expanding shared transport provision • Developing Mobility Hubs • Developing a MaaS framework	For many longer journeys, travel by bus or rail is the most attractive option. Working with operators, opportunities exist to improve end-to-end journeys by public transport, including environments at stations and access to them. The network of bus services will be reviewed to identify ways to improve the coverage of the network, service frequencies, reliability, fares and customer experience. Where demand is lower, shared transport and demand responsive transport will play an important role, as will park and ride and car clubs. Making it easy to plan, book and pay for journeys is an important aspect. The development of high-quality 'Mobility as a Service (MaaS)' technology (such as a travel app for smartphones), which simplifies this process, will be critical to making this happen.

Policy Area	Principle	Description	Measures	Explanation
5. Demand Management for Cars	**Shift** 	**Measures to decrease use of cars for some journeys.**	• Altering parking supply and charges • Traffic calming • Engaging with eco-levy (pay as you drive) developments • Using charging revenue to support sustainable modes	Travel by private car is inefficient in terms of use of space, and results in higher carbon emissions, pollution and other environmental and social impacts than travel by other modes (per passenger kilometre travelled). However, travelling by car is often lower cost per trip than public transport for car owners, and more convenient. Whilst the other policies in the LTP4 are intended to make travel by alternatives to private car more attractive, it is likely to be necessary to also increase the costs of car travel for some types of journeys to reflect their wider impacts, if we are to meet our objectives. No decisions have yet been made on how or when this will be achieved, or which types of journeys will be affected. Ideally, our approach would follow a regional or national scheme. Options include introducing an eco-levy for using the road network based on a pay-as-you-go model, increases in parking charges and reductions in the amount of parking available, and traffic calming. Any approach would be focussed and money raised would be reinvested in Surrey's transport network, potentially providing an important source of revenue to fund the other Policy Areas set out in the LTP4, strengthening the alternatives to car use.

Policy Area	Principle	Description	Measures	Explanation
6. Demand Management for Goods Vehicles	**Shift** 	**Measures to decrease use of certain goods vehicles, and/or at certain times, or in certain locations.**	• Introducing delivery restrictions and consolidation • Altering traffic routing, speeds and priority • Engaging with eco-levy (pay as you drive) developments	HGVs and vans have a significant impact on our communities, air quality, congestion and road maintenance costs and produce significant carbon emissions. Measures similar to those described under Policy Area 5 would mean that operators of those vehicles would be making a greater contribution to reflect those costs, particularly at certain times of the day or in sensitive locations. Alternatively, operators could avoid those costs by becoming more efficient, for example through freight planning/consolidation, use of alternatively fuelled vehicles, or use of environmentally friendly last mile solutions such as e-cargo bikes. Other measures could include freight bans on certain roads, and greater controls over delivery times.

Policy Area	Principle	Description	Measures	Explanation
7. Efficient Network Management	**Improve** 	**Managing the operation and maintenance of the highway network so that it runs smoothly, and the effects of traffic on communities and the environment are minimised.**	• Data driven network management • A 'Vision Zero' approach to road safety • Enforcement • Targeted capacity improvements • Network maintenance • Futureproofing for new technology	Achieving a smooth flow of traffic brings benefits to road users, through better journey time reliability and a more pleasant driving experience. Reducing congestion also helps businesses, improves road safety and reduces emissions of carbon and local pollutants. Measures such as smarter traffic lights, road design, use and enforcement of speed limits, real-time traffic monitoring and signage will, in combination, allow us to relieve bottlenecks and operate a more efficient road network, as will better planning and delivery of roadworks and network maintenance. Measures will also proactively design out hazards to improve road safety. Where absolutely necessary, consideration will be given to providing additional road capacity; however, evidence shows that this can simply lead to more traffic and, ultimately, worsening of congestion and pollution.
8. Promoting Zero Emission Vehicles (ZEV)	**Improve** 	**Promoting rapid uptake of electric vehicles (and hydrogen vehicles where appropriate).**	• Planning and enabling charging and fuelling infrastructure • Accelerating the uptake of ZEV amongst council and wider fleets • Expanding EV car clubs	Electric and other potentially zero emission vehicles (ZEV) are essential to removing carbon emissions from transport; these include cars, vans, buses, taxis and HGVs. The government is leading on the uptake of ZEVs at a national level, through policies including a ban on new petrol and diesel car and van sales by 2030 and hybrid cars by 2035. At a local level, this policy area will look to accelerate uptake by providing public charging points and encouraging the private sector to do likewise, providing ZEV car clubs, ensuring our own fleets are zero emission, and by awareness raising.

Policy Area	Principle	Description	Measures	Explanation
9. Supporting Behaviour Change	**All** 	**Awareness campaigns and other activities to encourage walking, cycling and use of public transport and ZEVs.**	• Developing and expanding current behaviour change work • Adopting technology and gamification • Exploring mobility credits	The measures under the previous eight Policy Areas will enable people and goods to travel more efficiently, with less impacts on our environment and communities. However, they will only help us to achieve our objectives if enough people change their travel behaviour. An ongoing programme of activities to make residents and businesses aware of opportunities to change behaviour, how to do so, and the benefits, will therefore be essential to make sure that enough people travel differently, at least some of the time.

3.5 Policy Area 1: Planning for Place

3.5.1 Our Planning for Place policies

We will support local living and the strengthening and revitalisation of Surrey's places and communities through planning. Key measures will include partnership working to deliver '20-minute neighbourhoods', developing a street family framework for Surrey and ensuring that new development is focused around and enables sustainable travel options.

Contribution of Planning for Place to LTP4 Objectives

Scores (from ++ to --) indicate how well Planning for Place contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	+
Community and social mobility	+ +
Quality of life	+ +

3.5.2 The importance of places

Surrey benefits from a wide range of towns and villages with diverse characteristics. Supporting the strength and vitality of these places forms a key part of our policies.

Surrey's Economic Strategy Statement highlights the importance of a place-based focus for policy as we recover from the impacts of the COVID-19 pandemic. Places need to evolve to develop new functions in response to changes accelerated by the pandemic, such as the ongoing decline of the traditional high street and the significant shifts in working arrangements.

The **Surrey Place Ambition** also identifies the importance of a strongly place-based approach to supporting Surrey's future development and is being refreshed to reflect the impacts of COVID-19.

Thriving, diverse local communities and places are increasingly recognised to bring a wide range of benefits. These include sustainable economic growth, environmental benefits from reduced traffic and health and wellbeing benefits from increased physical activity and community engagement.

We will support the strengthening of places by working with partners to:

- Establish '20-minute neighbourhoods';
- Develop a Surrey street family framework; and
- Ensure that new development is focussed around sustainable travel options.

3.5.3 20-minute neighbourhoods

Establishing **'20-minute neighbourhoods'** will involve redesigning existing urban, suburban and village areas and developing new areas to provide attractive, thriving, local neighbourhoods. Each will be planned so that people can meet the majority of their needs locally, within a 20-minute walk or cycle ride. The number and range of services and opportunities provided locally will be increased, including retail, education, healthcare, jobs and local work hubs (providing high quality remote access to work further afield).

The neighbourhoods will provide **accessibility through the place making route** (Figure 1.12), with the potential to considerably reduce the number and length of trips that people need to make. Most of our travel is to access opportunities, activities, and services such as medical appointments. If more of these can be provided more locally, it will reduce the distance we need to travel, allow us to combine more journeys and provide more options for walking and cycling.

Developing 20-minute neighbourhoods can bring a **wide range of benefits,** including reduced emissions, better air quality, reinvigorated local centres and economies, and improved quality of life for residents.

Further benefits include improvements to local environments, health, communities and levels of inequality, as transport costs for accessing services fall and more opportunities are available locally.

Key characteristics of thriving 20-minute neighbourhoods include:

- **A strong sense of the local community** with a range of services, opportunities and attractions providing reasons to visit and enjoy the centre.
- **An attractive environment** including green space and areas for interaction.
- **Easy access by sustainable modes,** with safe and attractive routes to and within the centre, particularly for active modes.
- **Reduced dominance of cars and goods vehicles** on roads, improving safety and encouraging walking, cycling and social interactions.

Description of a 20-minute neighbourhood

A place providing most of residents' daily needs within a 20-minute walk or cycle ride. Key features include local shopping and health facilities, education, green spaces, affordable and diverse housing, safe streets, active travel and public transport, and employment.

Figure 3.9 is based on a diagram produced by Melbourne authority and widely used to summarise the key features.

The concept has gained momentum as an important component of a green recovery from COVID-19, recognised by bodies such as the Town and Country Planning Association, Sustrans and the Royal Town Planning Institute.

Figure 3.9 – 20-minute neighbourhood

3.5.4 Delivering 20-minute neighbourhoods

Successful delivery of 20-minute neighbourhoods will require **strong links with other Policy Areas,** particularly provision of **Digital Connectivity** and support for **Active Travel/Personal Mobility, Demand Management for Cars** and **Demand Management for Goods Vehicles.**

Fully delivering 20-minute neighbourhoods will require co-ordination with Districts, Boroughs and other partners, and several land use changes that are likely to take several years to develop in full. However, we can focus on some 'Quick Wins' that will make a significant difference to places, increasing the sense of local community and level of local activity.

It is important that we act quickly to 'lock-in' the increased trend for living locally seen during the COVID-19 pandemic. Rapid action will also help to **support recovery from the continued decline of the high street economy;** accelerated by the pandemic.

Quick wins in delivering 20-minute neighbourhoods overlap with other Policy Areas and include:

- **Making land use changes to increase the range of activities** in existing central buildings, making them more flexible, for example:
  - Work hubs to support remote working;
  - Delivery hubs to centralise home deliveries, reducing the number of trips, with individuals picking deliveries up or potentially having them delivered by e-cargo bike; and
  - New types of activities and entertainment.
- **Establishing mobility hubs,** a clear, attractive focus for public and shared transport and other services (such as remote working facilities), focussed round a rail or bus station or stop where possible and providing easily accessible information on travel options (discussed further under **Public/ Shared Transport**).
- Implementing **walking and cycling schemes** that are forecast to be well used.
- **Making public realm improvements,** introducing parklets and pedestrian priority to make the area more attractive.
- **Introducing 20 mph zones and traffic management as default** on roads identified to have a strong 'place' function in the street family categorisation. This will reduce the dominance of cars and goods vehicles, improving safety and encouraging active travel.

3.5.5 Surrey street family

Developing a Surrey street family framework (see Figure 3.9), will be important in supporting the development of 20-minute neighbourhoods. The framework will provide a basis for **identifying the functions of roads in different places.** This will help to move away from the priority given to the flow of cars and goods vehicles on most roads, and recognise that other types of movement and place based activity (such as cycling, walking, social interactions) are more important on many roads, particularly in urban and residential centres, such as in 20-minute neighbourhoods.

Through the update of the **Surrey Place Ambition** we will work with partners to develop a street family framework that reflects Surrey's requirements and characteristics.

The framework will link closely to our emerging Surrey Street Design Guide, 'Healthy Streets for Surrey'. This guide will assist developers, the Boroughs and Districts, and the community in understanding what we will be seeking when considering development proposals. It will ensure that they deliver high quality, attractive, safe, accessible and sustainable development, that results in places which will improve Surrey residents' physical and mental health, and reduce their environmental footprint by encouraging cycling and walking more often. Key features include creating streets that enable children to safely play; improving air quality; re-greening streets and public spaces; reducing residents' transport carbon footprint and creating beautiful, resilient and popular streets, that will require less long-term maintenance.

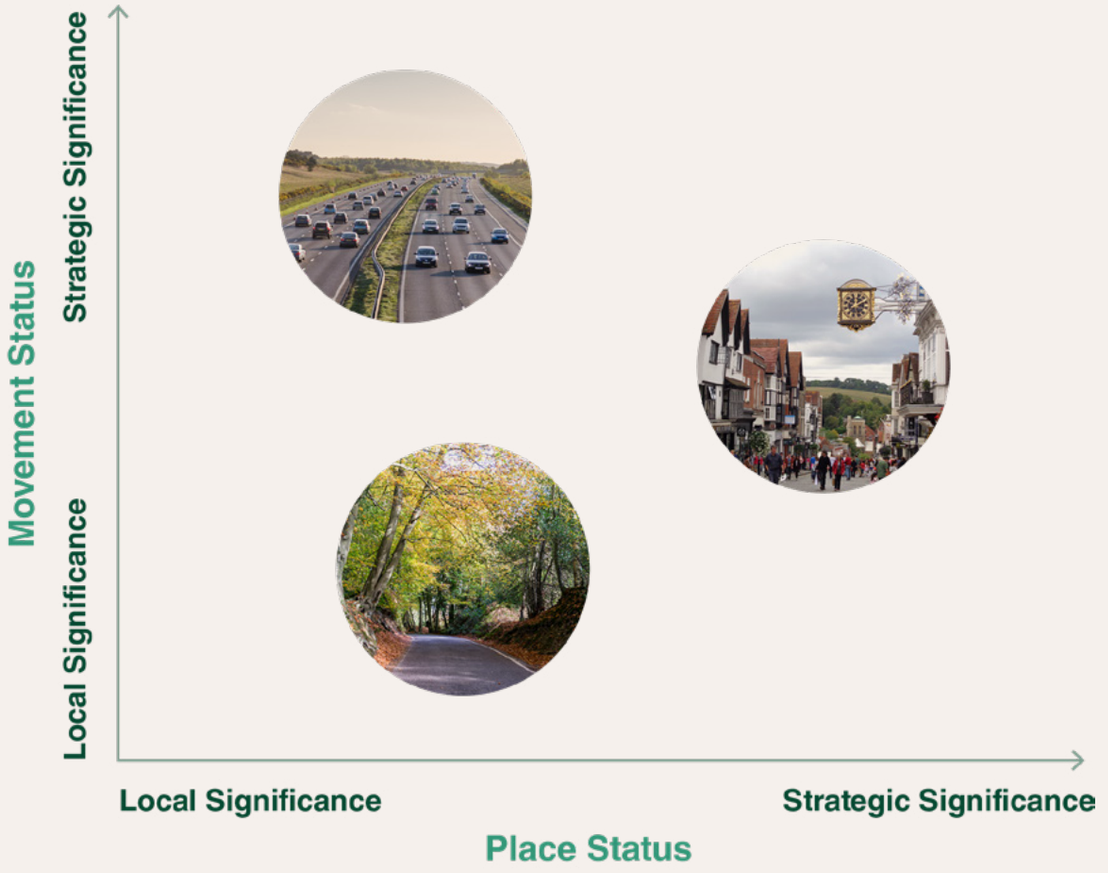


Figure 3.10 – A Street Family for Surrey.

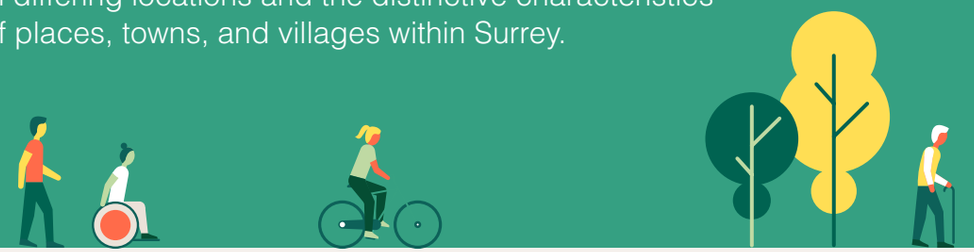
A street family for Surrey

The county council will develop a street family framework. This will allocate streets and places to categories based on local community needs and traffic movement needs.

The framework will help to balance the diverse functions of Surrey's roads which include providing an environment for walking, cycling and interacting, providing access and reliable journey times.

The framework will help to determine the priority for different types of transport and types of sustainable transport measures that should be implemented on each type of road to support our LTP4 objectives.

The categories will reflect contrasting functions and priorities in differing locations and the distinctive characteristics of places, towns, and villages within Surrey.



3.5.6 Planning for new development

We will work with partners to ensure that new development is located to promote sustainable transport use. This will include prioritising sites for development near to existing public transport routes, to support the use of sustainable modes and enable residents to access opportunities that cannot be provided in local centres, including employment and education.

3.6 Policy Area 2: Digital Connectivity

3.6.1 Our Digital Connectivity policies

We will work with our partners to support delivery of reliable, high quality digital connections to homes and organisations across Surrey, and to increase delivery and uptake of opportunities and activities online.

Contribution of Digital Connectivity to LTP4 Objectives

Scores (from ++ to --) indicate how well Digital Connectivity contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	+ +
Community and social mobility	+
Quality of life	+ +

3.6.2 The role of digital connectivity

Digital connectivity provides **one of the three types of accessibility** described in **Figure 1.12.** High quality digital connections provide significant potential for replacing travel with online activity, such as virtual work meetings, or online doctor's appointments.

In 2020 and 2021, responses to COVID-19 caused a step change in levels of digital access, the range of opportunities offered online and people's familiarity with the options available. This helped develop a clearer understanding of the potential to change travel behaviour through digital activity.

With the presence of the world-leading 5G Innovation Centre and many other relevant businesses in Surrey, we have the benefit of excellent local digital knowledge. The county has good coverage of fixed broadband connectivity in high-density population areas. Ultrafast broadband coverage is also higher than the national and regional averages. However, full fibre availability is low across Surrey and digital connectivity is generally much lower in rural areas such as in Mole Valley.

COVID-19 and digital access

The Office for National Statistics showed that **38%** of Surrey's working population worked at home during April 2020, with proportions exceeding **50% i**n Tandridge and Waverley. A recent study by the University of Chicago, quoted in the Climate Change Committee's 6th Carbon Budget, has estimated that 43% of UK jobs can be done entirely from home.

Research from the Chartered Institute of Personnel and Development (CIPD), also shows that, nationally employers expect that the proportion of people working from home on a regular basis once the crisis is over will increase to **37%** compared to **18%** before the pandemic.

We will support increased accessibility via digital connectivity through measures including:

- Supporting **extensive rollout of fibre broadband and 5G** mobile coverage; and
- Supporting development and raising awareness of **online opportunities** and **services.**

3.6.3 Supporting extensive rollout of fibre broadband and 5G mobile coverage

Improving digital connectivity will require **extensive rollout of fibre broadband and 5G mobile coverage** to provide excellent connections for homes, businesses and public organisations such as healthcare providers, Surrey-wide. This will need involvement and co-ordination from several parties. As identified in Surrey's Economic Strategy Statement, we will work with commercial and public sector partners to develop a 'masterplan' for future digital infrastructure, setting out a clear understanding of gaps and opportunities and the economic case for investment to accelerate rollout.

3.6.4 Supporting development and raising awareness of online opportunities and services

We will also work with our partners to develop clear plans to support **development of online opportunities and services,** benefitting from improved digital connections. This will include services provided by the county council, aligning with **Surrey's Digital Strategy,** which is intended to move the county's digital provision and use forward rapidly over the next 5 years.

The next phase of digital infrastructure deployment involves even faster (gigabit) broadband connectivity and widespread 5G mobile connectivity, which will enable a new range of services and applications. Examples include, autonomous electric vehicles and transport, drone delivery services, healthcare provision via virtual and augmented reality etc.

We will also work to **raise awareness of online opportunities,** activities and services to **maximise their use** and reduce the need to travel.

3.7 Policy Area 3: Active Travel / Personal Mobility

3.7.1 Our Active Travel / Personal Mobility policies

We will prioritise measures to increase Surrey's levels of walking/wheeling, cycling, scooting, e-biking and potentially e-scooting (if legalised following ongoing trials). We will provide safe, attractive, high quality routes, directly serving journeys that people want to make, developed following the latest design standards and guidance. In line with our new Surrey street family and Healthy Streets framework (described in **Planning for Place**), routes will be segregated from other traffic, or on low speed roads and will be suitable for all abilities. We will also support the use of e-Cargo bikes for last mile deliveries.

Contribution of Active Travel / Personal Mobility to LTP4 Objectives

Scores (from ++ to --) indicate how well Active Travel/ Personal Mobility contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	+
Community and social mobility	+ +
Quality of life	+ +

3.7.2 The benefits of active and personal mobility options

Active travel (walking, cycling and scooting) is the most sustainable form of transport, as shown in the travel hierarchy (see **Figure 3.11**).

Those using active modes benefit from physical health and wellbeing improvements. If their journeys also replace trips by car, the traffic reductions caused bring significant wider benefits. These include reductions in carbon emissions and improvements in local air quality, noise quality, safety and the local environment.

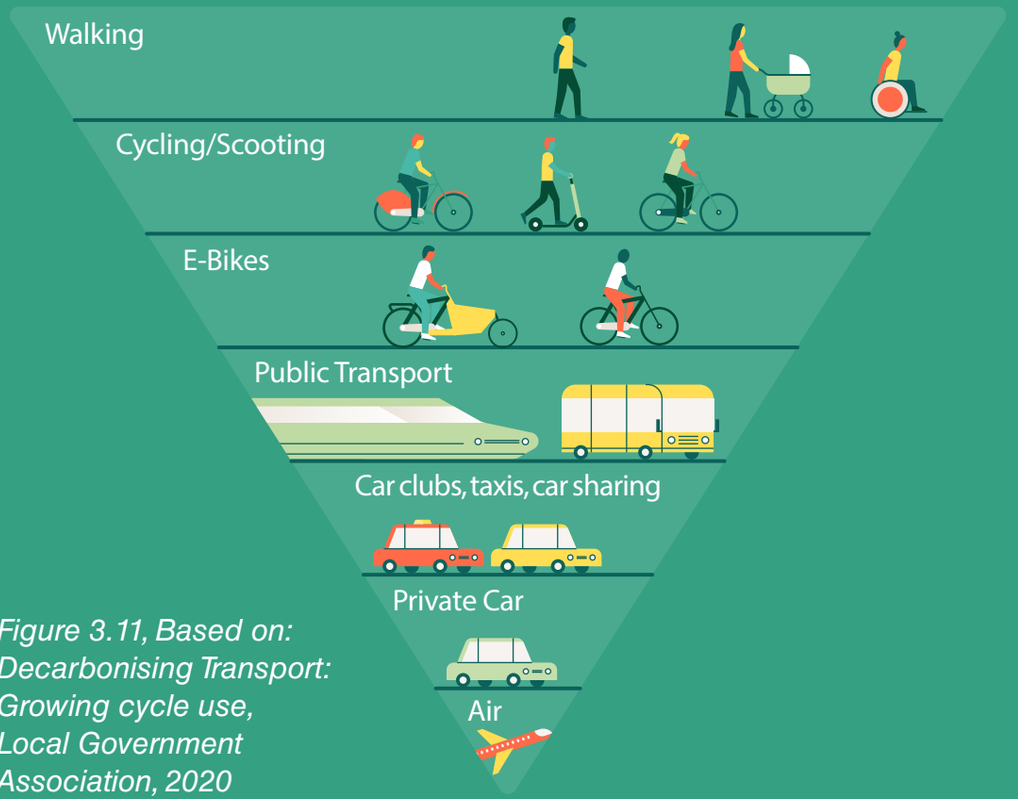


Figure 3.11, Based on: Decarbonising Transport: Growing cycle use, Local Government Association, 2020

Sustainable travel hierarchy

The sustainable travel hierarchy ranges from walking as the most sustainable travel mode, through to air travel as the least sustainable. Figure 3.11 illustrates the types of travel option at each level.

There is also growing evidence that increased active travel levels bring economic benefits to local centres as people tend to stay longer, visit more shops and destinations and spend more when arriving by active modes (see more detail further on in the LTP4 **Sustainable Growth Impact Strategy**).

Technology is adding to the range of active and personal mobility options available. E-bikes are now well established. They bring similar benefits to conventional bikes as well as some additional advantages. They are suitable for a wider range of potential users, including by older or less fit users and those travelling in more challenging terrain, and they extend travel ranges by up to 15 to 20 miles.

E-scooters have also become increasingly visible in recent years. They have the potential to bring many of the same benefits as e-bikes, although they require less physical activity. They provide efficient personal mobility that is accessible to a wide range of users and can cover ranges of up to 20 miles. However, they also bring some additional challenges, particularly around safety, and are currently being trialled in a number of towns and cities around the country, to see how and if they can be rolled out safely and legally.

As new technologies and options such as e-scooters emerge, we will follow best practice and guidance to ensure that we effectively and safely benefit from the potential opportunities that they bring.

3.7.3 Delivering a step change in use of active and personal mobility options in Surrey

We want to promote a step change in the number of trips in Surrey using active and personal mobility options. To do this we will continue and expand on our existing good practice and introduce a wide range of measures to prioritise these modes and promote their uptake, including:

- New, extended, and improved routes;
- Supporting facilities;
- Measures to encourage change on longer journeys;
- Measures to increase awareness and safety;
- Hire schemes; and
- E-Cargo bikes.

3.7.4 New, extended and improved routes

We will build on our existing our Woking Cycle Demonstration Town investment, Sustainable Transport Packages, District and Borough cycle plans and will use the **Local Cycling and Walking Infrastructure Plan** (LCWIP) process to identify and prioritise key routes and improvements required to support travel by active and personal mobility options. Our aim will be to provide a **safe, attractive, accessible and connected network** linking residential areas to key destinations such as high streets and local centres, schools, employment centres, healthcare and public transport.

We will also ensure that all new land use developments and transport developments for other modes build in high quality provision for active and personal mobility options.

Active travel for leisure also has an important role and we will continue to develop Public Rights of Way through our **Rights of Way Improvement Plan,** to provide a vital link between open spaces, urban areas, rural communities and the wider countryside to encourage walking and cycling as well as enabling wildlife migration.

Key design features of high quality walking and cycling routes include:

- Segregated or low speed, traffic calmed routes, with cyclists and pedestrians having separate routes.
- Junctions adapted to improve active travel provision, including early release for cyclists and low signals, two stage right turns, and increased capacity.
- Widened and high quality footways, including surface quality, width and continuity.
- Convenient crossing facilities for those walking and cycling, reflecting travel desire lines.

When developing and improving routes, we will apply **good practice design standards,** in line with government guidance (see box). Developments will also align with our new **Surrey street family** and Healthy Streets framework, with routes segregated from other traffic or on low speed roads.

Government cycle design guidance

Local Traffic Note (LTN) 1/20 Cycle infrastructure design guidance was published in association with the **Government's Gear Change** vision for walking and cycling in 2020 and provides guidance to local authorities on delivering high quality cycle infrastructure, including: planning, physical design of routes and facilities, traffic signs and markings, and construction and maintenance. We will refer to this guidance for all new developments in our cycle network.

Where possible, for high demand routes we will deliver **high quality segregated cycle facilities,** similar to the corridor between the Royal Surrey Hospital and Surrey University in Guildford.

Where appropriate, space for new lanes could be achieved through removing on street parking, supporting **Demand Management for Cars.** Elsewhere, wholly new cycle lanes will be built. In some cases, we will reallocate existing road space from cars and goods vehicles to active modes, designing schemes carefully to minimise the impacts of any additional congestion.

Where segregation is not achievable, we will **increase the priority of active modes** on appropriate roads on the existing network. For roads that are identified to have a strong place role in the Surrey street family (described in Planning for Place), with strong demand for walking, cycling and social interaction (but a need for some through traffic), we will apply our emerging **Healthy Streets** principles. This will involve limiting car and goods vehicle access and prioritising travel by active and personal mobility options (and public transport).

The introduction of **20 mph zones** will play an important role in shifting the balance away from cars and goods vehicles on identified roads and making routes safer and more pleasant for active travel. We intend to make **20 mph the default speed for shopping and residential roads.** Relevant roads will be identified in line with the Surrey street family categorisation.

Each route will be **designed to be safe and accessible** to all. Consideration will be given to vulnerable and lone travellers through design features such as lighting, wide accessible footways, natural surveillance and CCTV.

We will also take the opportunity to build **green infrastructure** such as new tree planting into any new and improved routes.

3.7.5 Supporting facilities

To support the increased uptake of active and personal mobility options on the network of routes, we will also provide supporting facilities to make the options more attractive.

This will include:

- **Excellent cycling support services such as secure parking facilities, storage, changing facilities and charging for e-bikes** in residential areas and at cycle destinations including shops and hospitals.
- **Clear signs and markings** to make it easier for people to follow routes and identify facilities such as benches along the route to improve accessibility to a wider range of the population.

3.7.6 Measures to encourage change on longer journeys

To maximise the impact of mode shift on traffic levels, we will ensure that active travel and personal mobility options can be used for, or as part of, longer journeys. We will do this by:

- Providing good **access routes to public transport** so that the first and last leg in longer journeys that may previously have been completed by car (including journeys to and from train stations) can be made using active or personal mobility options.
- **Integrating the options with Planning for Place measures,** promoting 20-minute neighbourhoods and increasing the number of trips occurring within the distance range for active and personal mobility options, replacing previous longer distance trips made by car.
- Encouraging the **use of e-bikes** and potentially **e-scooters** (if they are made legal following the ongoing government trials) to extend the range and routes for which personal mobility options are appropriate.

3.7.7 Measures to increase awareness and safety

Measures to support the uptake of active and personal mobility options will also be a key component of our behavioural change measures (as described under the **Behaviour Change** Policy Area). We will provide accessible, reliable information on available routes, and incentives and rewards for reaching certain levels of walking and cycling activity.

For the school community, we will continue to promote and encourage active travel to schools through our **Sustainable Schools Travel Strategy.** We will provide training to equip children with cycling skills, improving their health, wellbeing, safety, and school performance as well as building sustainable habits for the future.

We will also support measures to improve the environment around schools for active travel, setting action within the context of our new **Surrey streets family** and Healthy Streets framework. Once government has granted appropriate powers, this will include establishing **'school streets'** which convert roads around school entrances to traffic free pedestrian and cycle zones at drop off and pick up times.

We will also support **training schemes** such as Bikeability for cycling (and potentially scooting) for all age groups to improve safety and awareness.

3.7.8 Hire schemes

We will support the development of options for **cycle and e-bike hire** and potentially e-scooter hire (dependent on current trial outcomes). If possible, they will be **integrated with other modes through a Mobility as a Service (MaaS)** framework (discussed under the **Public/Shared Transport** Policy Area).

Hire schemes can form a valuable part of an integrated alternative to travel by car. For instance, e-bikes could provide the means to cross an urban centre on a one-way trip, or the transport for the first or last leg of a journey on the public transport network.

The option to hire bikes or scooters can also encourage their use by providing the opportunity to cycle, e-bike or scoot, without the ownership requirements and responsibilities of storage and maintenance.

3.7.9 E-cargo bikes

There is also a role for active travel in reducing carbon from freight. We will encourage the **use of e-cargo bikes,** in conjunction with the measures described under the **Demand Management for Goods Vehicles** Policy Area, to reduce the impacts of the last legs of journeys to distribute goods.

3.8 Policy Area 4: Public / Shared Transport

3.8.1 Our Public / Shared Transport policies

We will with work with our partners including bus and rail operators to improve and develop our public and shared transport provision.

Our bus measures link to our emerging Bus Service Improvement Plan and rail measures are drawn from our **New Rail Strategy for Surrey.** They include developments to provide simpler, improved and more integrated services and more reliable journey times. We will continue to build upon our work to improve the safety and accessibility of the network and opportunities to simplify and reduce fares will be explored.

The expansion of shared mobility (such as e-bike hire) will play a key role in expanding travel options and we will explore approaches to improve integration between public and shared transport, both physically at Mobility Hubs and digitally through a Mobility as a Service framework.

Contribution of Public / Shared Transport provision to LTP4 Objectives

Scores (from ++ to --) indicate how well Public/Shared Transport contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	+
Community and social mobility	+ +
Quality of life	+ +

3.8.2 The role of public and shared transport

Public and shared transport follow active travel at the top of the sustainable transport hierarchy (as shown in **Figure 3.11**). Availability of **attractive, high quality, reliable, well planned and affordable services** across Surrey will play a fundamental role in meeting each of our four LTP4 objectives.

Public transport services provide a more sustainable alternative to car travel, reducing traffic and carbon emissions and improving air quality and the road space available for other modes. They also provide a safe, accessible and efficient means of transport to town centres, jobs, education, healthcare, leisure facilities and other key destinations. The transport opportunities provided promote social inclusion and improve quality of life. There is also increasing evidence of the importance of public transport access in supporting sustainable economic growth. This is discussed further in the **Sustainable Growth Impact Strategy.**

Shared transport options are expanding and include **lift share** schemes, **ride hailing** such as **Uber, taxis, demand responsive transport** and **car clubs** as well as hire of personal mobility i.e. **bikes, e-bikes** and potentially **e-scooters** (if they are made legal following ongoing trials). The options are increasing and improving as a result of growing availability of data on travel patterns for operators and flexibility of booking apps for users.

These shared options provide valuable opportunities to **complement the public transport network** and combine to provide a more comprehensive alternative to the car, reducing the need to own a car. For instance, shared transport can provide options for the first or last leg of a public transport journey, or cover journeys for which there is not sufficient demand to support public transport provision.

Supporting the **further development of our public and shared transport provision** will be a key element of LTP4. However, there is some uncertainty around the measures to be taken as the **public transport sector is currently experiencing major change.**

Passenger numbers have been significantly reduced by the COVID-19 pandemic due to social distancing requirements and health concerns. There is **uncertainty over the extent to which passengers will return,** and the form that demand will take. For instance, peak commuting demands into London are likely to remain lower, but new commuting patterns may emerge if firms relocate from central areas.

There are also major **organisational changes** in the sector, accelerated by the pandemic. **Great British Railways** was formed in May 2021. It is a new public body that will set rail timetables and ticket prices as well as managing railway infrastructure. Private companies will still operate trains under new contracts with government.

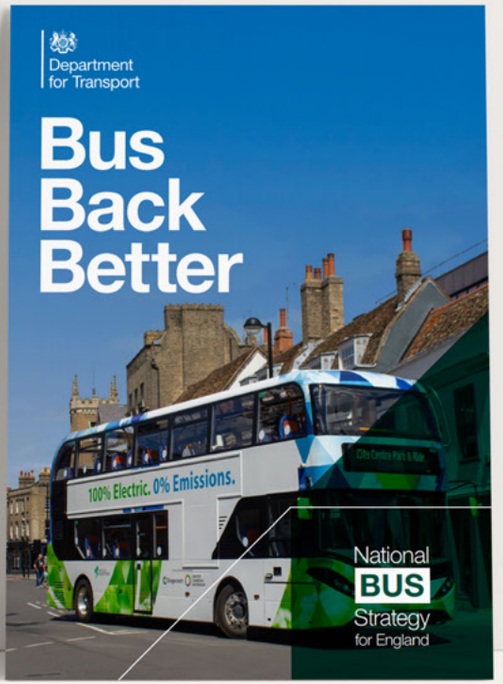
In the bus sector, the government published a **National Bus Strategy (NBS)** 'Bus Back Better' in March 2021 aiming to deliver a rapid step change in bus usage. It introduces new requirements for bus service provision as well as new opportunities to secure funding for bus services and facilities.

In response to the NBS we are currently working with bus operators and other partners to produce a **Bus Service Improvement Plan (BSIP).** This will set out our high-level vision for Surrey's bus network, including journey time and reliability targets, and our plans to deliver them. Delivery will rely on **extending and formalising our strong existing partnerships** with bus operators.

The government's **National Bus Strategy for England** sets out ambitious plans for a step change in the bus sector to **rapidly increase bus use and recover** from the losses caused by the pandemic.

It identifies the key goals that bus services should be:

- More frequent;
- Faster and more reliable;
- Cheaper;
- More comprehensive;
- Easier to understand;
- Easier to use;
- Better integrated with other modes and each other.



Our plans for the bus network are closely aligned with the government's goals for the NBS (see summary above), therefore our BSIP will provide the bus element of this Policy Area in the finalised version of the LTP4.

The rail component of this Policy Area already reflects our recently published **New Rail Strategy for Surrey,** which has similar objectives to the LTP4 and outlines our role in promoting changes in rail provision (see box).

Our overall focus of this Policy Area is to take stock as the post pandemic position becomes clear and to continue to work with our partners to **re-establish demand and deliver high quality public and shared transport provision** in Surrey.

We will do this by exploring and developing the most appropriate options in relation to:

- Improving, integrating and simplifying services;
- Improving journey time reliability;
- Simplifying ticketing and fares;
- Improving accessibility and safety;
- Expanding shared transport provision;
- Developing Mobility Hubs; and
- Developing a MaaS framework.

A New Rail Strategy for Surrey was published in March 2021 and sets out how rail can contribute to a greener future, growing a sustainable economy, empowering communities, and tackling health inequality in Surrey.

3.8.3 Improving, integrating and simplifying services

We want our public transport network to be **easy to understand** and to **directly and efficiently serve** journeys that people want to make.

The NBS highlights the importance to passengers of a simple and integrated public transport network. As we work with our partners to develop the BSIP, we will review the options available to **improve and simplify our bus services.**

We anticipate that our focus for **improving service frequency** will be on **high demand routes.** This will include **routes serving town centres,** where increased passenger numbers bring a range of benefits including supporting sustainable growth, social inclusion and improved local environment and air quality.

We will also identify practical opportunities to **improve integration between services,** through better timetable alignment for both bus and rail services, as well as improved physical connections (discussed further under Mobility Hubs below). When considering opportunities for new services, we will review the options to **expand park and ride,** building on the success of our Guildford services. This would work in conjunction with rationalisation of parking provision (discussed under **Demand Management for Cars** below) but will need to be carefully planned to avoid the risk of increasing traffic.

We will **pursue available sources of funding** to improve the services on the bus network, including the funding associated with the NBS, the Levelling Up Fund, funding from Local Enterprise Partnerships and from developers.

Funding from developers will be obtained by introducing requirements for **new developments to be served by good quality bus services** that integrate with the existing public transport network. This will require co-ordination with District and Borough councils as planning authorities and developers.

As outlined in our Rail Strategy, we will also continue to work with partners to **make the case for rail improvements** such as additional services on the North Downs and Tonbridge lines. We will also support improvements to orbital rail capacity and frequency, particularly where it can support sustainable housing and employment growth cost effectively.

To ensure our network provides comprehensive coverage, we will continue delivery of bus services that are **socially or economically essential** but not commercially profitable. We will review the opportunities to change the approach to delivery, potentially serving lower demand routes with **Demand Responsive** options (described below), possibly as 'spokes' linking into the main bus and rail services.

In this context, we will also consider the **opportunities for a 'Total Transport' approach,** coordinating bus services with other public sector transport provision (including hospital transport and school transport), with the aim of minimising any duplication between services and maximising journey opportunities.

Demand Responsive Transport services typically serve an identified route and timetable but only run if passengers pre-book and only serve those parts of the routes required by bookings. If well designed and well known, they can provide an efficient and flexible service.

Surrey recently received £0.6 million from the government's Rural Mobility fund to introduce trial **Demand Responsive Transport in rural areas in the Mole Valley** using EV minibuses. The aim is to work to complement or replace infrequent services such as those connecting hamlets and villages to nearest towns.

The minibuses are fully accessible and will be **available on demand** by booking through app, phone or online. Residents will also be able to access real time information about availability and location of the minibuses.

Branding and clear information provision also play a key role in making the public transport system simpler to understand and more attractive to potential passengers. As we develop our BSIP, we will review opportunities to build on our progress in providing high quality information to passengers, for instance through our **web-based service.** We will also identify opportunities to expand provision of **real time passenger information** which is already present across much of the network and will be further expanded by recently agreed funding of £1.4 million.

Information on service availability and fares promotions are also likely to play a key role in recovering passenger numbers after the pandemic.

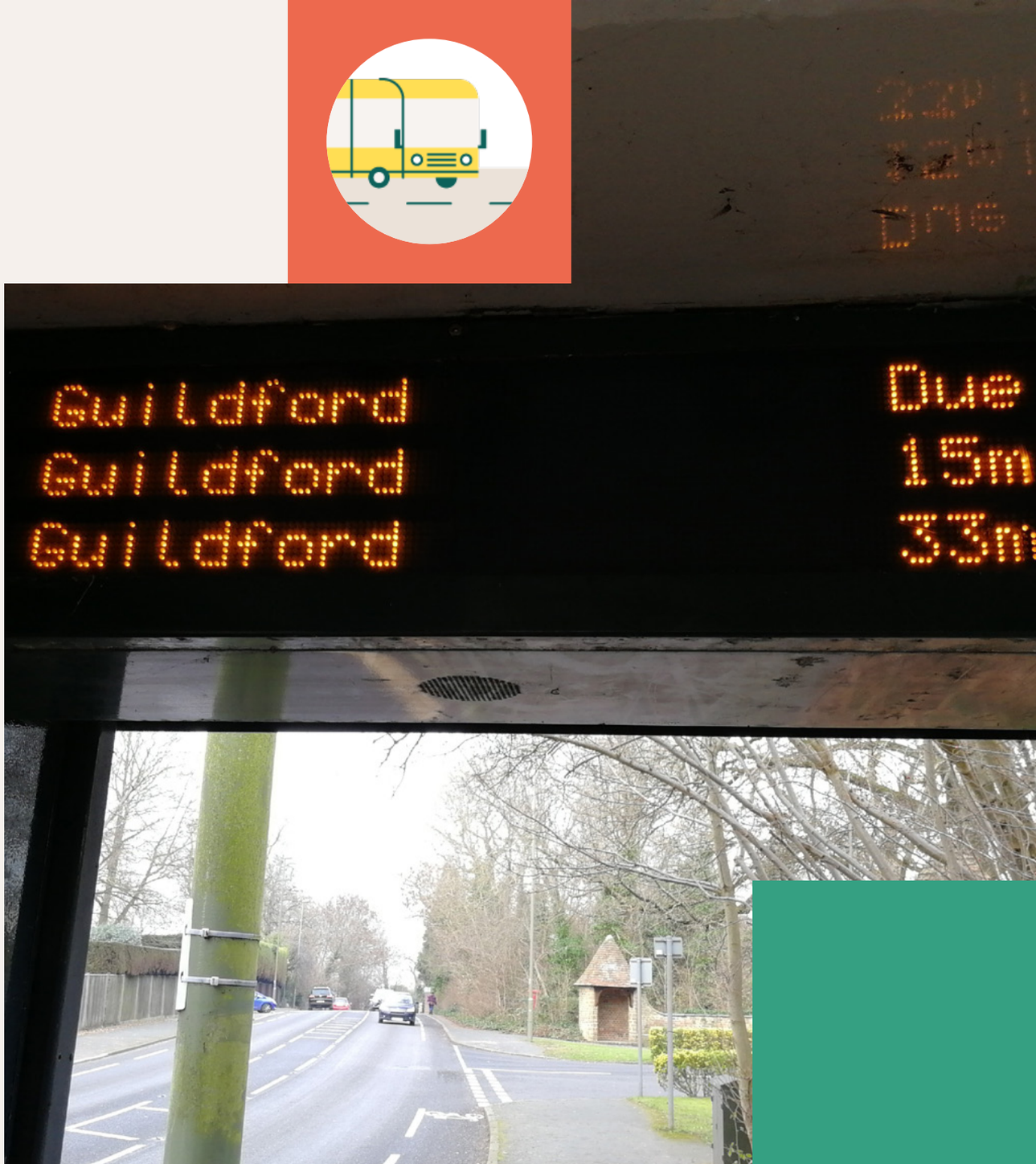
3.8.4 Improving journey time reliability

Reliable journey times are a key consideration in drawing potential passengers to public transport. **Improving bus priority** through measures such as bus lanes, traffic signal prioritisation and bus gates plays a key role in improving reliability.

We have already implemented many bus prioritisation measures across the county, and have recently agreed £9 million funding for further priority schemes. We will review additional options as we develop our BSIP, recognising the need to coordinate carefully with plans for walking and cycling priority.

The NBS puts a strong emphasis on the importance of priority and reliability and highlights the **need to keep routes clear of parking and loading activities and to enforce bus lane rules.** This enforcement is currently challenging as it relies on limited police resources. We welcome the opportunity to consider how to enforce these issues ourselves, as the government moves to make more enforcement powers available to us (discussed further in the Effective Network Management Policy Area).

Our Rail Strategy identifies a number of ways in which we will work with partners to **support improved rail journey times and reliability,** including support for schemes and proposals to increase capacity and services, such as Thameslink and the South West Mainline improvement.



3.8.5 Simplifying ticketing and fares

Ticketing and fares play a key role in making public transport more attractive to potential passengers. The NBS emphasises that fares policy needs to play an integral part of each BSIP, highlighting that **lower and simpler fares** attract passengers and bring wider social and economic benefits. More widely, the NBS sets out the ambition for seamless **integrated ticketing between modes and transport operators** and for fares initiatives, for instance to support jobseekers.

We welcome the ambition to improve and integrate ticketing nationally. As we develop our BSIP, we will **review the options to develop our fares structures and multimodal ticketing.** This would build on our existing successful delivery of ACORN tickets used for different services in North Surrey and integrated ticketing in Woking and Guildford.

Our Rail Strategy also highlights the need to **promote a fairer rail fares structure** which will support changing commuter patterns and a potential increase in more local rail trips.

We will **explore the development of a Mobility as a Service framework** (discussed further below). This would provide a route for simplifying and integrating fares across networks and transport types and applying measures such as daily fares caps.

3.8.6 Improving safety and accessibility

It is a core requirement that public and shared transport services are **accessible to all and provide a safe environment** for passengers. We will incorporate 'Security by Design' to address issues of vulnerable and lone travellers and the ways in which design can best support them.

Our Rail Strategy highlights our role in supporting the improvement of **rail stations as safe environments that are accessible to all.** This includes working to deliver station upgrades and design standards, supporting the continued programme of providing step free access at stations and providing good connections to other modes, including taxis and Demand Responsive Transport.

As we develop our BSIP, we will work with partners including the Districts and Boroughs to identify how we can extend our previous work to improve **bus accessibility and safety.** Our developments to date include providing good quality bus shelters, readily available real time information and design changes including raised kerbs and improved lighting levels. Consideration of sight lines and the provision of CCTV on buses and at some stops also play a key role in designing for safety.

We will also review the opportunities to improve the **walking and cycling networks** that provide access to bus stops, with the aim of making them more direct, safer, easier to negotiate and more attractive to all sectors of the population.

3.8.7 Expanding shared transport provision

We will support the expansion of **shared mobility** to complement and expand the reach of our public transport system. This is likely to include introducing **Demand Responsive Transport** services as described above and working with Districts and Boroughs to provide appropriate licensing support for **ride hailing schemes** and conventional taxis.

We will also support and promote **hire schemes for bikes, e-bikes** (and potentially e-scooters if they become legal) and encourage their siting at key locations such as Mobility Hubs, to provide options for parts of longer journeys.

Another key component of shared mobility is likely to be the rapid roll out of **EV car clubs.** Car clubs could play a key role in the transformation of travel in Surrey. They provide flexibility of access to cars for those journeys where more sustainable alternatives do not work well, helping to **reduce the need for car ownership.** They also help to reduce car use. Users pay on a per journey basis as they do for public transport journeys and so can make a choice of modes on a more equivalent basis (see box).

Car owners pay much of their car ownership costs up front through purchase, insurance and fuelling, making each additional journey relatively low cost. For those using cars relatively little each year, car clubs can save considerable costs, as well as removing the responsibility of maintenance and updates.

Expansion of the car club network will build on the existing clubs in Woking and Guildford and will help to introduce EVs rapidly (see **Promoting Zero Emissions Vehicles**). This is important for equity for Surrey's residents, as it provides a route for lower income households to access cars that will meet the low emissions standards proposed for parking charging (discussed further under **Demand Management for Cars**).

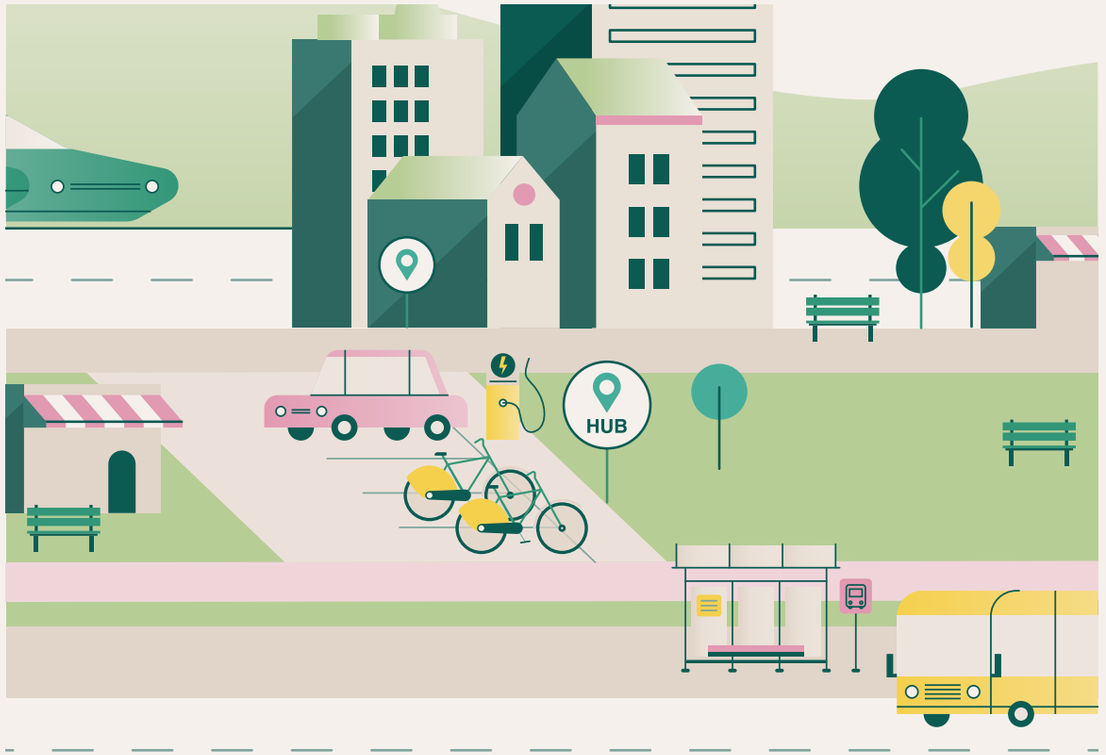
3.8.8 Developing Mobility Hubs

Our Rail Strategy identifies the potential for rail stations to provide:

- **Better integration with other transport modes,** through better links to walking and cycle networks, bus and DRT services, taxi access and provision of facilities such as charging points for e-bikes and EVs.
- **A wider range of services for the local community,** including space for local businesses and delivery and collection points.

We will explore the options to build on these principles to develop **Mobility Hubs**. These are clearly distinguished, **attractive foci for public and shared transport provision and connections,** focussed around rail stations or bus stations or stops where possible. They provide access to a range of modes (for instance bike and car clubs in larger hubs), easily accessible information on travel options and other services such as retail and digital hubs, that provide the facilities required for remote working or access to online appointments or other opportunities.

Mobility Hubs would make sustainable alternatives to car more attractive and would help to reduce the number and length of trips by providing more opportunities locally, in line with our **Planning for Place** Policy Area.



Mobility Hub: space designed specifically to house public transport alongside active and shared mobility options, with high quality public realm.

Figure 3.12 – Mobility hub

3.8.9 Developing a Mobility as a Service framework

We will explore the potential for developing a **Mobility as a Service (MaaS)** framework for Surrey, as it has the potential to bring significant benefits in terms of **integrating public and shared transport** and encouraging mode shift away from cars.

A MaaS framework brings together information on transport modes and services, typically in a smartphone application (with access also available by phone and computer).

Benefits include features such as **end-to-end journey planning, multi-modal ticket purchasing** and the ability to earn and spend rewards. It provides a unified framework for accessing shared mobility options alongside timetabled public transport, reducing complexity and cost and making the options more attractive to users (see Figure 3.13).

MaaS frameworks improve and simplify the travel experience for passengers, providing reliable real time information, journey planning and payment for the full journey, regardless of the number and range of modes used. They also support accessible travel (by providing information about facilities such as accessibility ramps and travel assistance).

Improvements made to **Digital Connectivity** will be key to taking full advantage of the potential of MaaS solutions across Surrey.

A Mobility Credits system linked to the MaaS application will also be explored to help incentivise changes to more sustainable travel behaviour and support accessibility options for groups such as jobseekers. Further detail on Mobility Credits is provided in the **Behaviour Change** Policy Area.

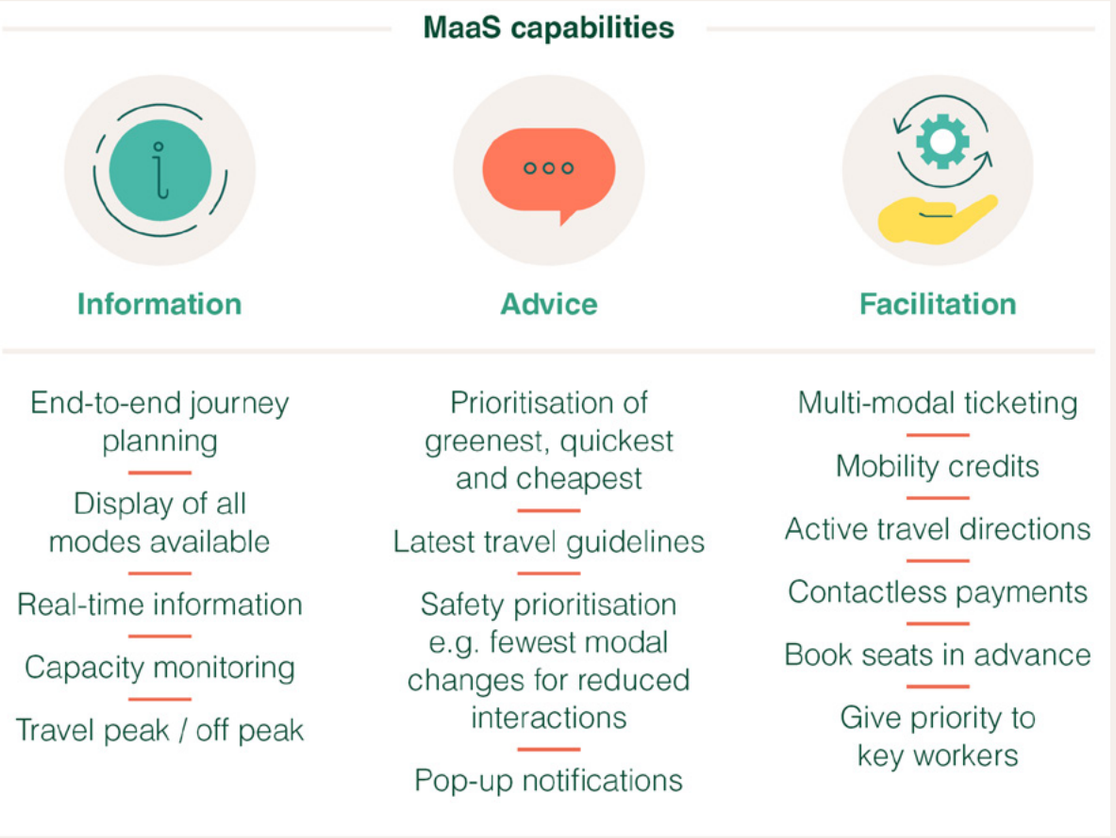


Figure 3.13 – MaaS capabilities

3.9 Policy Area 5: Demand Management for Cars

3.9.1 Our Demand Management for Cars policies

We will work with partners including the Districts and Boroughs and Transport for the South East (TfSE) to develop fair approaches to even up the balance between different transport options and reduce the priority currently given to car travel over sustainable modes. This is likely to include changes to parking charges and the number and location of spaces, along with measures such as traffic calming, implemented in the context of our new **Surrey street family** and Healthy Streets framework. We will also consider the case for an eco-levy (or pay as you drive charge), although this is most likely to be introduced at a national level.

Contribution of Demand Management for Cars to LTP4 Objectives

Scores (from ++ to --) indicate how well Demand Management for Cars contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	– /+
Community and social mobility	– – /+
Quality of life	+ +

The impacts of demand management on both the sustainable growth and community and social mobility objectives will be mixed.

Many businesses and people will benefit from the reduced congestion and improved reliability due to reduced traffic levels, and from the release of central urban space from parking. However, some businesses and people who rely on car trips will be affected by the reduced convenience and increased cost of car use, leading to a negative impact in the short-term whilst other accessibility options and the wider benefits of the LTP4 develop.

The measures will be implemented as part of all the wider LTP4 Policy Areas, which will have a positive impact on both sustainable growth and community and social mobility. The revenue from demand management will also fund some of the beneficial measures discussed under other Policy Areas, such as provision for active modes and public transport.

3.9.2 The need for demand management

In order to achieve our four LTP4 objectives, we will need to introduce measures that allow **a fairer comparison between car and sustainable travel options** (i.e. active travel and personal mobility, public and shared transport, see the sustainable travel hierarchy in Figure 3.11). This will **involve reducing the priority that is currently given** to car use in preference to other modes, despite negative environmental and health impacts.

Transport and urban design have generated car dependency by prioritising making car use convenient and attractive over other considerations for several decades. This has resulted in cars and goods vehicles dominating all roads, making them less attractive for other uses. It has also led to a significant proportion of central space in settlements of all sizes being allocated to parked cars, preventing and disrupting use of the surrounding space for other purposes such as green space.

Prioritising the convenience of car use has had negative impacts for Surrey in terms of carbon emissions, local air quality, quality of public spaces, physical fitness and equality of access to opportunities and amenities for those without a car (see Figure 3.14).

An important part of the change in direction set out **in this LTP4 is to change this balance.** We will move to a situation where sustainable transport modes are treated more equally, and the wider negative implications of car use on our communities and environment are recognised and reflected in the costs and convenience of using them.

Benefits of reduced car use and reduced car ownership:

Figure 3.14 – Benefits of reduced car use and car ownership

To achieve this step change we will review and identify the best options for levelling up the balance between travel options through:

- Altering parking supply and charges;
- Traffic calming;
- Engaging with eco-levy (pay as you drive) developments; and
- Using charging revenue to support sustainable modes.

3.9.3 Altering parking supply and charges

Changes in **parking supply and charges** will change the relative attractiveness of using different modes of travel. Reducing the area of urban centres allocated to parking spaces and increasing parking charges will put car travel on a more even footing with other modes in terms of payment per trip. This would help to move away from the current situation where costs are largely paid upfront each year and at each fuelling, meaning that the current cost of each new car trip is relatively low (see box).

We will work with Districts and Boroughs to **review parking measures** including:

- Reducing the amount of parking available and relocating it to less central locations;
- Increasing parking charges with tariffs reflecting emissions impacts; and
- Introducing parking charges in new areas.

Travel costs

The differences in the way that we pay for car and public transport travel are another key factor that favours car use over public transport. **Public transport is usually paid for on a per trip** basis. However, the main costs of car travel are paid in larger sums upfront (purchase cost, annual costs like insurance, and then fuelling). Having paid these upfront costs, the additional **cost of each car journey is relatively low,** and certainly too low to cover the cost that it imposes on wider society and the environment as described in the main text.

Measures like **parking charges, or an eco-levy, help to even this balance** by increasing the costs per car journey to capture its wider impact on society and make the approach to payment more similar to public transport.

Measures will be **tailored to specific locations** and be applied **in conjunction with other Policy Areas,** to ensure that sustainable travel options provide alternatives to car trips. Past experience has clearly shown that measures to achieve demand management and those to increase sustainable travel use have greater effect when implemented together. For example, Oxford and other towns and cities have achieved substantial increases in sustainable travel in conjunction with parking restrictions.

Whilst concerns are often raised that reducing parking provision and increasing its cost will have negative economic impacts for urban centres, evidence suggests that this does not occur in practice. Research by organisations such as Transport for London and Living Streets indicates that traffic free pedestrianised environments are more attractive to visitors; and that those visiting a town centre by modes other than car are likely to spend more in a month, as they will visit the centre more often and are more likely to make additional unplanned stops whilst passing. This topic is discussed further on in the LTP4, in the **Sustainable Growth Impact Strategy.**

Reducing the amount of parking available and relocating it to less-central locations could build on some of the principles of our successful Park and Ride policy in Guildford. It would free up significant areas in our urban centres for more varied and attractive uses that are accessible to all, such as parks and leisure facilities. Some central parking spaces would be retained for those with accessibility needs. We will ensure that altering parking supply and charges does not affect accessibility for blue badge holders.

In residential areas, options would include reducing spaces allocated for private cars in new developments and existing areas with on-street parking. This could be balanced with increased availability of car club vehicles.

Increasing parking charges could play an important part in levelling up the balance for car costs and encouraging behaviour change. Tariffs could be specified to reflect emissions impacts based on fuel type, vehicle size and ownership (privately owned or car club vehicle).

Setting the charges would provide the opportunity to give the important message that driving certain types of cars, including larger cars, is more environmentally damaging.

This change would need to be combined with **widespread access to car clubs** including small electric vehicles (EVs), to ensure low cost access to low emissions vehicles for those households on limited incomes (who are more likely to have older, less efficient cars). Car clubs are discussed further in the **Promoting ZEVs** Policy Area.

Introducing parking charges in new areas could include:

- **Workplace parking levies** – requiring larger organisations to pay a fee for the number of parking spaces provided for their employees or students (see box). If the charge is passed on to employees, it helps to put the cost of workplace parking on an even footing with public car parks.
- **Local shopping centre charges** – possibly combined with an allowance of a limited number of weekly free visits to encourage people to continue to use local facilities, but combine their activity into fewer car trips.
- **Residential parking** – increased charges for spaces, particularly second spaces. It will be important to make sure that this does not impact unfairly on lower income households, because it is likely to focus on housing without off street parking. Again, introducing this measure in conjunction with widespread availability of car club vehicles, would help to offset any uneven impacts on different groups of residents.

Parking charges could be **incorporated within the Mobility as a Service (MaaS) framework** (discussed in the Public/Shared Transport Policy Area). This would help to make the cost comparison between modes and the differentiation of charges for car club vehicles more visible to users when making travel decisions.

Workplace Parking Levy is a charge on employers and educational organisations for the number of parking spaces they provide that are regularly used by employees, students or others. The intention is to put the parking resource on an even footing with paid public car parks. This has been successfully in place in Nottingham since 2012.

The current charge is £428 per space per year and the scheme has reduced parking spaces provided in the targeted area by 25%. It has also contributed to mode shift away from cars.

Much of this change is attributed to the fact that the levy generates circa £10 million per year which has been invested in significant improvements in the public transport network. Key improvements include Lines 2 and 3 of the NET tram network, the city's subsidised electric Link Buses and refurbishment of the rail station. There is evidence that these substantial improvements are encouraging investment in the city as well as mode shift.

The MaaS framework would also provide **access to Mobility Credits.** Credits could be provided to support access to public and shared transport for groups such as jobseekers, to ensure that demand management measures do not limit accessibility and opportunities for any residents. Mobility Credits are discussed further in the Behaviour Change Policy Area.

3.9.4 Traffic calming

Measures introduced for other Policy Areas would also have a demand management effect. In particular, the **Healthy Streets and 20-mph zones** identified in the **Planning for Place** and **Active Travel/Personal Mobility** Policy Areas will further manage demand.

The closure of some Healthy Streets to through traffic and the reduced priority and speed for traffic on others, will increase travel time and further reduce the relative advantage of using cars rather than active travel, personal mobility or public transport options for local trips.

3.9.5 Engaging with eco-levy (pay as you drive) developments

A further demand management option that we need to consider is an **eco-levy (or pay as you drive charge).** This would further offset the bias towards the car as drivers would need to pay a charge reflecting the environmental damage caused by each kilometre of their journey, rather than the costs being absorbed by wider society as they are currently (see travel costs box above).

We think charging would be most effective if applied across all roads and would be **most successful if applied as a national system.** National charging has been raised recently, particularly in relation to the need to replace fuel duty as petrol and diesel sales reduce. TfSE also raised the need for its consideration in their recent Transport Strategy. We will engage with other authorities, TfSE and government to understand and inform developments on this issue.

3.9.6 Using charging revenue to support sustainable modes

Any revenue from parking charges or eco-levies would provide an important source of revenue to **fund the other Policy Areas** set out in the LTP4, strengthening the alternatives to car use and increasing the benefits of reduced car use for the environment, economy and public health. We will make this link clear as part of our communication to encourage Behaviour Change.

3.10 Policy Area 6: Demand Management for Goods Vehicles

3.10. Our Demand Management for Goods Vehicles policies

We will work with partners including the Districts and Boroughs and Transport for the South East (TfSE) to manage the impacts of goods vehicles on our roads. This is likely to include changes to delivery restrictions and the introduction of consolidation and electric delivery vehicles for the last legs of deliveries.

We will continue to influence routing of goods vehicles, using weight restrictions and measures such as traffic calming, implemented in the context of our new **Surrey street family** and Healthy Streets framework. We will also consider the case for an eco-levy (or pay as you drive charge), although this is most likely to be introduced at a national level.

Contribution of Demand Management for Goods Vehicles to LTP4 Objectives

Scores (from ++ to --) indicate how well Demand Management for Goods Vehicles contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	– /+
Community and social mobility	0
Quality of life	+ +

The impacts of demand management on our sustainable growth objective will be mixed**.** Some businesses will benefit from the reduced congestion and improved reliability and environment due to reduced goods vehicle traffic on certain roads and from efficiencies due to consolidation. However, other businesses with a significant reliance on freight and deliveries will be affected by the increased cost and reduced convenience of goods vehicle use, leading to a negative impact.

The measures will be implemented as part of all the wider LTP4 Policy Areas, which will have a positive impact on sustainable growth. The revenue from demand management will also fund some of the beneficial measures discussed under other Policy Areas, such as provision for active modes and public transport.

3.10.2 The role of goods vehicles management

Goods vehicles cover a range of vehicles from delivery vans to the largest articulated lorries. Between them, they accounted for over 20% of the traffic on Surrey's roads in 2019. They play an important role in Surreys economy and the wider regional and national economy. However, they also have a significant impact on Surrey's environment and people through their emissions, noise, road safety effect and severance impact, deterring use of active travel and personal mobility options on our roads.

As described in **Demand Management for Cars,** road vehicles have benefited from prioritisation over other modes and over environmental and social considerations and do not currently pay for the costs they impose on wider society.

We will therefore manage the impacts of goods vehicles on roads using our new Surrey street family and Healthy Streets framework (as set out in the **Planning for Place** Policy Area), to rebalance the use of road space for different modes and purposes and focus goods vehicle traffic on appropriate roads. At a larger scale, we will support measures to reduce overall levels of goods vehicle traffic.

To achieve this, we will review and identify the best options related to:

- Introducing delivery restrictions and consolidation;
- Altering traffic routing, speeds and priority; and
- Engaging with eco-levy (pay as you drive) developments.

3.10.3 Delivery restrictions and consolidation

To manage the impact of goods vehicles deliveries on sensitive areas we will work with partners, including representatives of the freight industry, to consider **delivery restrictions including delivery bans or restricted time deliveries** in central urban areas. Approaches could potentially include charges for entering central zones and restrictions varying according to vehicle size and emissions, as applied in Clean Air Zones, such as the one recently launched in Birmingham.

To minimise the economic effect of these measures we will also support the **development of consolidation centres** near to towns. These will allow deliveries from different sources to be combined for onward delivery.

To increase the benefits of consolidation, we will support the use of **smaller, more efficient vehicles** such as electric vans or e-cargo bikes, portering or potentially drones for the last leg of journeys (from consolidation centres).

We will build on **best practice and lessons** from established consolidation centres such as the Sustainable Distribution Centre near Southampton and from trials such as the on ongoing scheme to allow organisations in Southampton and Eastleigh to trial e-cargo bikes for deliveries.

In residential areas we will support the development of delivery hubs at easily accessible locations (e.g. at mobility hubs) to consolidate home deliveries and reduce the number of failed deliveries. Again, e-cargo bikes could be used for the last leg of the journey.

Taking measures such as these to **limit the impacts of home deliveries,** will be important given the rapid and continuing growth in internet shopping and reductions in delivery times expected by those buying online.

We will also support consolidation of loads over longer distance to reduce the overall amount of goods vehicle traffic. For instance, **consolidation of procurement** amongst organisations that are located close together helps to reduce delivery trips.

E-cargo bikes can carry loads of up to **250kg,** compared with a typical van that carries 600–1000kg. Lower carrying capacity is made up for by the cycle's flexibility, and far lower costs of purchase and operation.

3.10.4 Traffic routing, speeds and priority

We also need to manage goods vehicles on the way to their deliveries and deter through trips on sensitive roads. In the context of our new Surrey street family and Healthy Streets framework, we will use **traffic calming, access limitation, and 20 mph zones** to deter through goods vehicle traffic on roads that are prioritised for active modes, personal mobility and social interaction.

This will build on our existing measures to **route goods vehicles along appropriate roads** and away from sensitive ones wherever possible. These include weight restrictions which will be covered by our new **'Surrey HGV Watch' HGV weight restriction enforcement policy.** We will train, co-ordinate and communicate with volunteer groups and HGV operators to **improve awareness and compliance.** Local communities will be empowered to monitor compliance with restrictions, so that the police and council services available for this issue can be efficiently used, for instance targeting repeat offenders.

3.10.5 Engaging with eco-levy (pay as you drive) developments

As for cars, a further demand management option that we need to consider is an **eco-levy (or pay as you drive charge)** where goods vehicles would pay per kilometre of travel.

As for cars, this is a clear way for those benefiting from goods vehicles journeys to pay for the cost that they impose on wider society and for that cost to inform their decision making. For instance, an eco-levy may encourage load consolidation, more efficient route planning and potentially mode switching where options exist.

We think charging would be most effective if applied across all roads and would be **most successful if applied as a national system.** National charging has been raised recently, particularly in relation to the need to replace fuel duty as petrol and diesel sales reduce. TfSE also raised the need for its consideration in their recent Transport Strategy. We will engage with other authorities, TfSE and government to understand and inform developments on this issue.

Any **revenue from demand management measures** would supplement car-based charges and provide revenue for **funding improvements for other Policy Areas.**

3.11 Policy Area 7: Efficient Network Management

Contribution of Efficient Network Management to LTP4 Objectives

Scores (from ++ to --) indicate how well Effective Network Management contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+
Sustainable growth	+
Community and social mobility	+
Quality of life	+

3.11.1 Our Efficient Network Management policies

We will manage the road network efficiently to deliver smooth traffic conditions, reduced emissions, improved safety and greater journey time reliability. New and emerging data sources will inform and improve our network management decisions and we will look to make best use of traffic enforcement powers as government makes them available to us. These management changes, along with changes in design, will support our 'Vision Zero' approach to safety on the network. This will be supported by our new Surrey street family framework (as set out in the **Planning for Place** Policy Area), with certain street types highlighted for reduced speeds and other interventions.

Where necessary, we will undertake targeted capacity improvements, and we will ensure efficient maintenance of the network and that it is futureproofed for future technology developments.

3.11.2 The role of network management

Meeting the LTP4's carbon reduction objective will require a marked reduction in road traffic. Therefore, in most cases, there will not be a case for investing in new road capacity as experience shows this to actually increase traffic levels and emissions. Instead, our focus needs to be on ensuring efficient use of the existing network without encouraging additional traffic.

Emissions and speed

Petrol and diesel vehicles are inefficient in slow congested conditions, producing very high rates of emissions per kilometre travelled. As speeds increase emissions per kilometre reduce, with lowest emissions between about 30 kph and 80 kph (depending on vehicle type), when increased speed causes rates to rise again (see Figure 3.15).

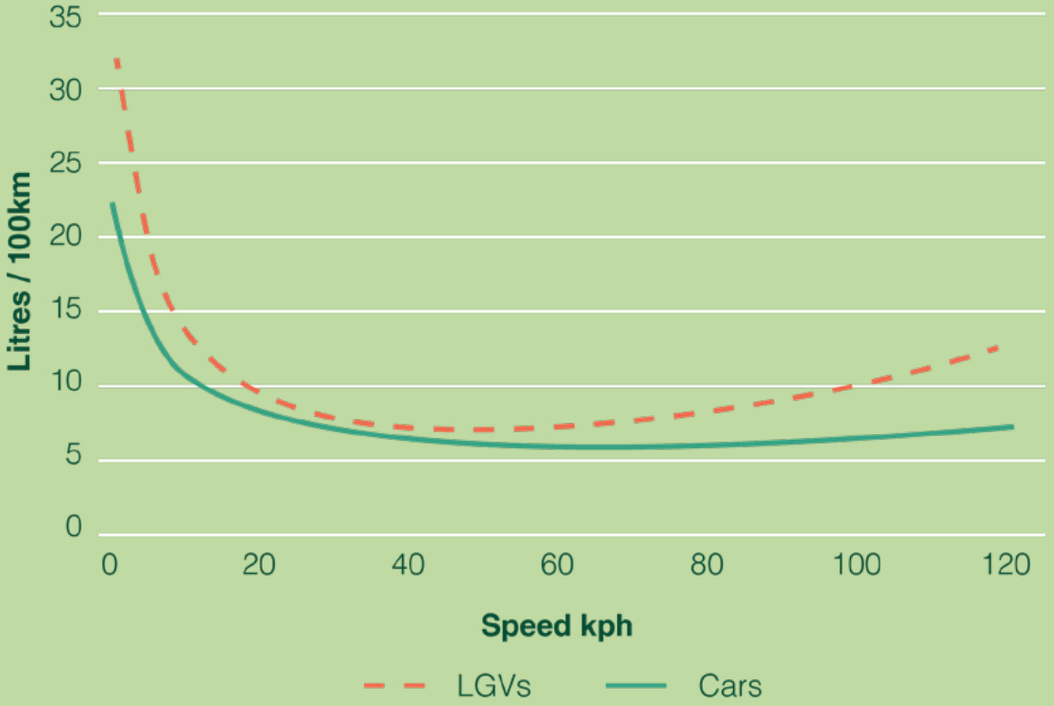


Figure 3.15 – Fuel consumption with speed, Source: TAG Unit A1.3

We will manage our network effectively to deliver these outcomes through the following measures:

- Data driven network management;
- A 'Vision Zero' approach to road safety;
- Enforcement;
- Targeted capacity improvements;
- Network maintenance; and
- Futureproofing for new technology.

3.11.3 Data driven network management

Managing the network effectively will rely on making best use of available data on traffic conditions from the growing range of available sources.

On a day to day basis, efficient network management will continue to develop systems to use information gained from these sources to:

- Allow **network managers to respond quickly and effectively** to provide a co-ordinated response to incidents and changing traffic conditions; and
- Provide appropriate **information to those travelling.** This information could be made available for all transport modes through the Mobility as a Service framework (described in Public and Shared Transport) to help inform mode, route and travel timing choices.

We will obtain data from **available and developing technology** and by developing **strong joint-working relationships** with neighbouring authorities, Highways England and major trip generators to share data.

A key component will be continuing our ongoing work to ensure that **traffic signal patterns are optimised for changing conditions,** particularly along key corridors and in central areas to minimise queueing.

Within urban areas we will make **good quality information on parking locations and availability** readily available to drivers. This will make use of the road network more efficient by avoiding circulation of drivers searching for parking spaces. To avoid this measure encouraging additional trips, it will be combined with measures to consolidate parking spaces to less central locations, shown in **Demand Management for Cars.**

New technologies can help to gather and disseminate information on conditions on the road network to enable effective management.

Other technologies can actively influence driver behaviour to reduce emissions, such as the **Green Light Optimal Speed Advisory (GLOSA) system.** This aims to reduce carbon emissions, fuel consumption, and travel times by avoiding unnecessary stopping at junctions. Approaching vehicles are given speed recommendations based on current and future traffic light signal phase timings.

Collaborative Traffic Management

Surrey works with Highways England and neighbouring authorities to **share data and coordinate management of the road network** at the boundary between the Highways England network and local authority networks. The programme has generated benefits including improved monitoring of the network, improved coordination and operation of signals and response to incidents, reducing delay and improving journey time reliability.

3.11.4 ‘Vision Zero’ approach to road safety

We are currently developing a new Road Safety Strategy for Surrey. This is built upon ‘Vision Zero’, which follows the principle that it is neither inevitable nor acceptable that anyone should be killed or seriously injured when travelling. The aim is to achieve a highway system with no fatalities or serious injuries involving road traffic.

Vision Zero road safety strategies follow the Safe Systems approach, based on:

- Safe road use;
- Safe vehicles;
- Safe speeds;
- Safe roads and roadsides; and
- Post-crash response.

As part of this approach, we will **proactively design out hazards** on the road network. This will include working towards **default 20 mph schemes in residential and shopping streets.** We will look at using average speed cameras to reduce speeds in areas where infrastructure solutions are not possible. These measures will make these roads safer for all users and more attractive for active and personal mobility travel options.

3.11.5 Enforcement

Enforcement of rules such as bus lanes and cycle lanes, and yellow box junctions, is important to ensure the efficient operation of the road network. The police currently hold most of the powers for enforcement but we are awaiting an update from Government (on the Traffic Management Act 2004, Part 6), under which **we will be able to apply for powers to take on some enforcement roles,** rather than relying on the police.

These powers will cover parking, red routes, bus lanes, and ‘moving traffic’ offences. We will investigate the opportunities provided by these powers in relation to enforcing school streets, using camera-based enforcement to limit vehicle access in Healthy Streets and yellow box junction enforcement. Through these measures we will be able to reduce congestion and to improve conditions for travel by active or personal mobility options.

We are already exploring new ways to help keep traffic flowing on the network within current laws. For instance, our new **lane rental scheme** is the first of its kind to be adopted amongst local authorities, following successful pilot schemes in London and Kent. It reduces the impact of road and street works on traffic by charging utilities and others carrying out works for the amount of time that their works occupy space on the road. Reduced charges are also applied to encourage works to be done outside of peak traffic times.

We are building on this scheme to coordinate street works, across the network and over a year, particularly for major street works. This will manage their impact on traffic flows on the road network and will allow residents and businesses to plan ahead. We will also look for opportunities to build on these plans further, through the additional powers to be available through the Traffic Management Act 2004, Part 6, mentioned above.

3.11.6 Targeted capacity improvements

Efficient network management may require minor road capacity increases in some locations to **alleviate congestion hotspots** (such as the level crossing at Ash). Other increases may be needed to remove traffic from **sensitive communities,** bringing significant improvements to residential or urban centre locations. In these limited cases, we will design schemes to bring significant reallocation of road space away from car and goods vehicle use. In this way, the community will benefit from safer, more accessible and healthy streets to support active and other personal transport options and public transport, without the scheme delivering a significant increase in capacity for cars and goods vehicles.

We will also need to provide road **connections to and through new developments,** making sure that the developments are well designed to reduce travel distances and encourage multi-modal travel, in accordance with our sustainable travel hierarchy (see **Figure 3.11**), such as in West Guildford at Park Barn and other locations.

3.11.7 Network maintenance

Maintenance of the network is key to ensuring that it operates efficiently and to supporting the delivery of several LTP4 ambitions. When roads deteriorate, they cause incidents that result in congestion and associated emissions and delay.

Good quality routes are also needed to encourage and increase walking, cycling and other personal mobility options as sustainable alternatives.

We will ensure the **network is maintained to a high standard through our asset management strategy.** We will make use of the increasing amount of data available in relation to our assets, to make maintenance more efficient, pro-active and preventative wherever possible, rather than reactively responding to faults.

Our maintenance approaches will take full account of our LTP4 Environmental Policies (see **Section 3.14**), including reflecting the need to be resilient to inevitable climate change, and taking the opportunity to build in green infrastructure such as planting and sustainable drainage wherever possible.

3.11.8 Futureproofing for future technology

Technology is developing fast and we need to ensure that our network is **ready to accommodate future changes.**

A key short-term consideration is accounting for the increasing number of **electric vehicles** on the road. The main implications are for charging which occurs off network (as covered in the **Promoting ZEVs** Policy Area). However, the different vehicle types also have some implications for maintenance.

We also need to prepare for the ongoing progress towards **connected and autonomous vehicles**. Although fully autonomous vehicles (driverless vehicles) are some way off, increasing numbers of vehicles on the road have some degree of autonomous features. Vehicles are also increasingly connected, transferring data with the wider world. We need to ensure our transport and digital networks support these developments and are ready to make **best use of the opportunities** they provide. For instance, increasing numbers of vehicles incorporating on board speed limiters will make digital enforcement of speed possible, providing further opportunities to smooth flow and improve emissions and safety.

3.12 Policy Area 8: Promoting Zero Emission Vehicles

3.12.1 Our Promoting Zero Emission Vehicles policies

We will work with partners including the Districts and Boroughs and businesses in the county to ensure that Surrey's fleet moves to zero emission vehicles (ZEVs) as quickly and efficiently as possible. We will plan and enable appropriate charging and fuelling infrastructure and work to accelerate the uptake of ZEVs amongst our fleets and those we can influence. This will include supporting widespread electric vehicle (EV) car clubs.

Contribution of Promoting Zero Emissions Vehicles to LTP4 Objectives

Scores (from ++ to --) indicate how well Promoting Zero Emissions Vehicles contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+ +
Sustainable growth	+
Community and social mobility	0
Quality of life	+

Low emissions vehicles terms

Zero Emission Vehicles (ZEV): We use this term to mean vehicles that produce zero carbon emissions at the point of use and have the potential to produce zero emissions overall. The main examples are electric and hydrogen vehicles that will produce zero emissions overall, once electricity (used to charge the vehicles or to produce the hydrogen) is fully produced from zero carbon emissions sources.

Electric Vehicles (EV): We use this term to mean vehicles driven by an electric motor, powered by a battery that is charged by plugging into the electricity network.

3.12.2 The role of ZEVs

A **rapid uptake of ZEVs in Surrey's fleet is needed** to meet our carbon reduction targets and to help improve local air quality and noise levels in our communities.

It is important to recognise that **ZEVs are not the single solution** to reducing carbon and solving other environmental and social impacts of road vehicles (see box below). However, they are a key component of the change required and rapid action is needed to make progress.

Much of the change will depend on action at a national level (critically the government's petrol and diesel new car/van sales ban in 2030 and the automobile industry's response).

However, the **county council has a key role in supporting and enabling the shift** as rapidly and equitably as possible. Our approach will be developed in the upcoming update to our electric vehicle strategy, and will involve three key components:

- Planning and enabling charging and fuelling infrastructure;
- Accelerating the uptake of ZEV amongst council and wider fleets; and
- Expanding EV car clubs.

ZEVs cannot resolve the transport sector's environmental problems alone

They cannot reduce carbon emissions quickly enough or solve other social and environmental issues of road use for several reasons, including:

- Fleet change cannot occur fast enough. Even with rapid take up of electric cars and vans, petrol and diesel vehicles will remain in the fleet into the 2040s.
- Significant emissions are produced by vehicle manufacture.
- Replacing petrol/diesel vehicles with electric vehicles does not solve the wide range of other problems associated with vehicle use, including congestion, air quality (EVs affect local air quality due to brake and tyre wear), road safety and the social inequality implications of lack of accessibility for those unable to afford or use cars.

3.12.3 Planning and enabling charging and fuelling infrastructure

We will work with partners to develop a **well-positioned public charging infrastructure** for electric vehicles (including e-bikes and potentially e-scooters).

Electric vehicle registrations in Surrey have been increasing at a rapid pace over the past year, with Surrey outpacing all neighbouring counties on registrations. Therefore, it is essential that we deliver the infrastructure which supports this rate of transition.

Our emerging electric vehicle strategy will provide more details on our plan to enable convenient access to a mix of rapid chargers and slower chargers across Surrey. This will include providing **on street charging in residential areas** without off street parking and **charging at destinations** such as retail and leisure centres and transport interchanges such as stations and mobility hubs.

The range of locations will be important to ensure that all sectors of the community have access to charging. It will also help to **increase confidence in the ability to charge vehicles** widely, helping to overcome issues of vehicle range anxiety.

A range of charging points already exist across Surrey (see Figure 3.16) and we have worked with neighbouring authorities in the Energise Partnership to install 5 rapid charging points. We are also making good progress with our **charging point pilot scheme.** This is using funding from the Enterprise M3 Local Enterprise Partnership to install 80 rapid charge points on street and near urban centres across Guildford, Spelthorne, Waverley and Woking.

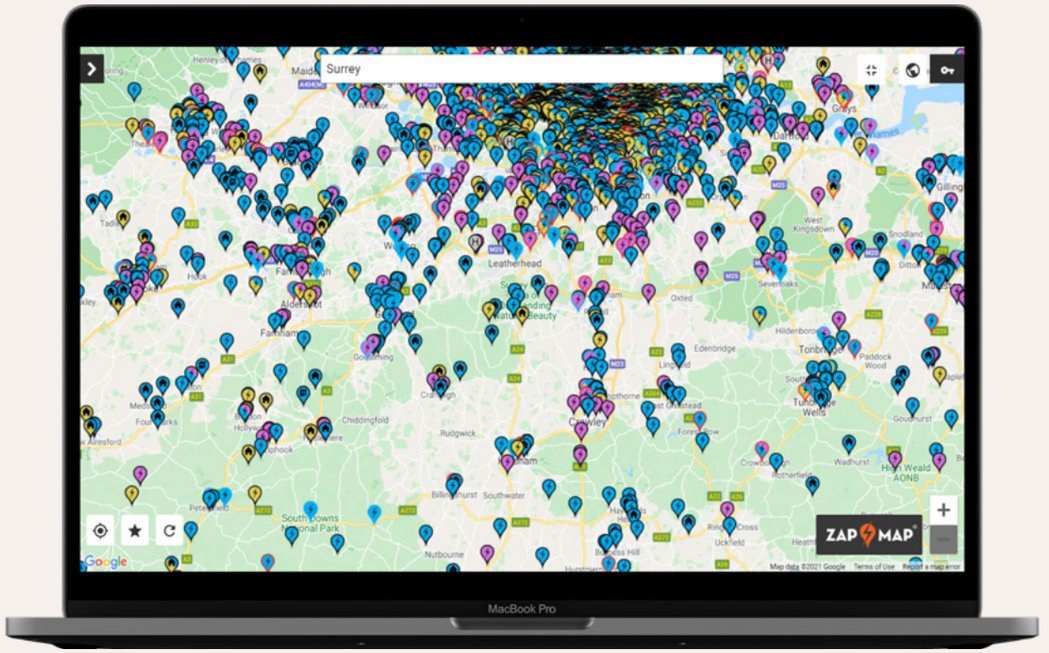


Figure 3.16 – Charging points in Surrey, Source: Map of charging points for electric car drivers in UK: Zap-Map

We will work with partners including the Districts and Boroughs to develop **design and policy guidelines for charging points** based on the pilot. This will include identifying appropriate locations and approaches to delivering the charging points in conjunction with the business community. Measures will include requiring new developments to provide appropriate charging infrastructure.

We will also work with partners to understand emerging requirements for fuelling infrastructure for **other alternative fuel sources** such as hydrogen.

We have also made a commitment to track a number of 'uncertainties' related to EV which will help us make effective policy going forward e.g. battery technology, resident charging behaviours and preferences, vehicle technology and making sure back-office systems are futureproofed.

3.12.4 Accelerating uptake amongst council and wider fleets

We will take action to **accelerate the take-up of ZEVs** amongst the fleets over which we have some influence including:

- Our council fleet and suppliers' fleets;
- Local taxi fleets;
- Bus and community transport fleet;
- Wider corporate fleet; and
- Private vehicle fleet.

We will work to upgrade **our vehicle fleet** to ZEVs, including both those vehicles that we own and those that we lease.

We will also review the scope to influence **the fleets of our suppliers.** For instance, procurement contracts could provide the opportunity for the council to set minimum standards for emissions rates for the vehicles used by suppliers.

To encourage EV uptake in **the taxi fleet,** we will work with the Districts and Boroughs to review the options to change **taxi licencing regulations** to require taxis to be electric. This could be supplemented by a **loan or grant** to help taxi drivers with the hurdle of high upfront costs. Other supporting measures would include **provision of charging** at relevant locations and **clear communication** of the likely operating cost savings of using electricity rather than petrol or diesel.

Converting the taxi fleet to EV would bring a number of benefits as the vehicles are well used, maximising lifetime emissions savings and being visible on the roads, increasing public awareness and experience of EV use. Additionally, much of their mileage is in urban areas where wider air quality benefits would be particularly valuable.

We will continue to support the conversion of **the bus and community transport fleet** through bidding for available funds such as the DfT Electric Bus Towns Fund. This will build on our existing electric bus fleet in Guildford (see box) and the recent decision to invest £32.5 million in electric and hydrogen buses and £6.5m for community transport electric minibuses.

Nine fully electric buses have operated on the Guildford Park and Ride service since 2019, introduced in partnership by Surrey County Council and Stagecoach and built by Guildford based manufacturer Alexander Dennis.

The Mole Valley Demand Responsive Transport trial (described in the **Public/ Shared Transport** Policy Area) is using electric minibuses. This will allow us to understand the practical opportunities and challenges associated with operating the fleet in practice, that we can then use to inform future fleet decisions.

Conversion of the bus and community transport fleet to electric or hydrogen vehicles will be valuable in promoting ZEV uptake as they are large, well-used vehicles, maximising lifetime emissions savings and again visibility to the public, helping to develop familiarity with ZEV use. They also undertake much of their mileage in urban areas, increasing air quality benefits.

We will support the conversion of **wider corporate fleets by raising awareness** amongst businesses in Surrey about the potential for ZEVs to bring them economic as well as environmental benefits. Other key measures will include providing access to **EV car clubs** (discussed further below). We will also build on our **website support** to help those upgrading their fleets with the practicalities of vehicle purchase, such as arranging charging facilities.

Company vehicle fleets are an important focus for early uptake of ZEVs. They often cover above average mileage each year, maximising emissions impacts and many become available on the second-hand market within a few years, providing opportunities for individuals to buy EVs at a lower cost. Companies are more able to afford the upfront costs of EVs and offset them against the benefits of cheaper operating costs.

We will also support uptake of ZEVs for **private cars by raising awareness** of the range of vehicles and their characteristics and the availability of government grants for purchase and charging points. Providing access to **EV car clubs** will be another key element of our policy (described further below). The website support mentioned will also be available for individuals buying a ZEV.

3.12.5 Expanding EV car clubs

We will support the expansion of **EV car club fleets,** as they have the potential to play a significant role in increasing EV use and make an important contribution to a number of the LTP4 objectives.

The fleets would build on the 30 Enterprise Car Clubs already provided across seven towns in Surrey, including Woking and Guildford, and could be part of the shared transport and accessed through the Mobility as a Service (MaaS) system (as set out in the **Public/Shared Transport** Policy Area). They would be accessible to both private and business users to maximise their impacts.

Benefits of car clubs include the **potential to get EVs on the road quickly** replacing journeys by petrol and diesel vehicles.

They would also provide **lower cost access to EVs,** feasible for those unable to afford a new car. This is important in combination with the **Demand Management for Cars** measure of differentiating parking charges by vehicle size and emissions.

The aim would also be to **reduce individual car ownership** by providing a low emission option for car use when essential, integrated with others within the MaaS system. Expansion of car clubs would then bring further benefits of **encouraging mode shift** away from car use. As people use car clubs rather than owning cars, they will **pay for car journeys more on a pay per use basis.** This will put costs and decisions about travelling by different modes on a **more comparable basis.** It also often saves car users money over a year.

In promoting the uptake of ZEVs across all fleet types, we will seek to **minimise the number and size of vehicles purchased** wherever possible. For national carbon reduction targets to be met, we should not simply replace the existing vehicle fleet with electric vehicles because of the emissions involved in vehicle manufacture.

Although the vehicle manufacturing emissions are outside the scope of emissions covered by Surrey's Climate Change Strategy commitment, they will contribute to national totals. Producing fewer vehicles and smaller vehicles will reduce emissions from this source.

Car clubs contribute to this aim as they mean that **distance travelled is covered by fewer vehicles** used more intensively, rather than individually owned vehicles (which are typically stationary for at least 95% of their lifespan). They also provide access to a range of vehicle sizes so that the **appropriate vehicle size can be chosen for a journey.** This contrasts with privately owned cars, as people typically own large vehicles only needed for occasional requirements (like holidays) and drive them daily, therefore unnecessarily increasing emissions and energy use for each journey.

3.13 Policy Area 9: Supporting Behaviour Change

3.13.1 Supporting Our Behaviour Change policies

We will build upon our previous successful behaviour change campaigns, including Travel SMART, to support our other LTP4 Policy Areas, including developing the behavioural elements of our strategies for school travel and road safety. We will also explore and make best use of the opportunities provided both by new technology and gamification developments, such as reward platforms, and by mobility credits.

Contribution of Supporting Behaviour Change to LTP4 Objectives

Scores (from ++ to --) indicate how well Supporting Behaviour Change contributes to each LTP4 objective. See **Impact Strategies** for more detail on the ways in which the measures contribute.

Carbon reduction	+
Sustainable growth	+
Community and social mobility	+
Quality of life	+

3.13.2 The importance of behaviour change

Achieving behaviour change is integral to the success of the LTP4. Creating the infrastructure and environments that make the new behaviours the 'natural choice' is critical too.

As set out in our **Promoting ZEVs** Policy Area, simply switching to ZEVs will not be enough to reach our county and national carbon reduction targets. **We all need to take action to change our behaviours to more sustainable ones** as soon as possible. Our behaviour change policies will provide people with the **information, awareness raising and incentivisation** to support good, informed travel choices.

We will promote and support the other eight LTP4 Policy Areas and encourage a change in travel habits. Changes will include steps to shop and live more locally, use online services more, walk or cycle wherever possible, use public/shared transport for longer journeys, and understand the need to pay more to park and for certain speed limits to be lowered.

Experience highlights that the most successful behaviour change campaigns focus on incentives and encouragement, rather than on telling people what ought to be done.

It is also important to note that the period of recovery from the COVID-19 pandemic offers a one-off opportunity to achieve behaviour change, as evidence shows that people are most willing to alter behaviour during periods of change. As a 'new normal' emerges after COVID-19 restrictions, there will be opportunities to influence the form it takes.

We will provide the **awareness raising, information, and incentives required to maximise uptake of our other Policy Areas** and ensure we achieve all our LTP4 objectives, creating a greener, safer, healthier Surrey for all.

Our approach to supporting behaviour change will be based upon:

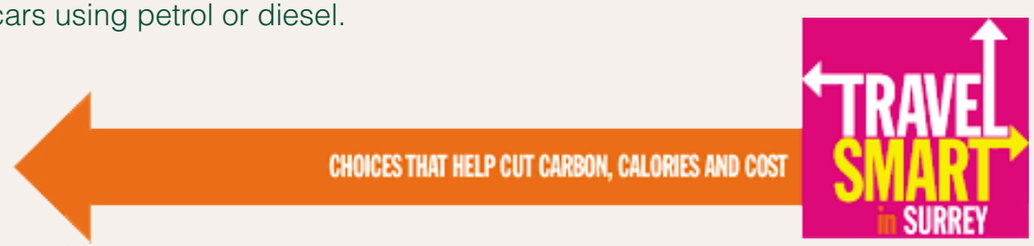
- Developing and expanding current behaviour change work;
- Adopting technology and gamification; and
- Exploring mobility credits.

3.13.3 Developing and expanding current behaviour change work

Behaviour change measures will be required to a greater or lesser extent to **deliver each of the other eight Policy Areas.** Given the scale and rate of change required, extensive and effective campaigns are needed to encourage and support the change. We will roll out a **variety of approaches to influence different sectors of the community,** building on our successful travel awareness campaigns of the last 20 years, including Travel SMART.

For instance, **targeted campaigns** may focus on raising awareness amongst those travelling to key destinations such as workplaces or retail centres, highlighting the travel options available.

The communications will convey key information such as the local and global benefits from reducing the use of cars, particularly large cars using petrol or diesel.



We will also continue to build on our successful **Sustainable Schools Travel Strategy** to empower and encourage young people and their parents to walk, cycle or scoot to school, improving their health and wellbeing, bringing environmental benefits and building healthy habits for the future. This has strong links to, and is also discussed under, the **Active Travel/Personal Mobility** Policy Area.

STARS online portal

As part of our work with schools, we will also continue to roll out school travel plans using the national Modeshift STARS online portal and will promote and market these services to schools throughout Surrey.

MODESHIFT STARS EDUCATION

As discussed in the **Efficient Network Management** Policy Area, we are also currently developing a new **Road Safety Strategy for Surrey.** This is built upon 'Vision Zero', with the aim to achieve a highway system with no fatalities or serious injuries involving road traffic. This links to the **Sustainable Schools Travel Strategy** through our road safety outside schools policy. We will develop focussed behaviour change measures to promote and facilitate these strategies.

Encouraging **a rapid uptake of ZEVs and a shift away from larger vehicles** will also form core part of our behaviour change measures and campaigns, supporting our emerging electric vehicle strategy.

3.13.4 Adopting technology and gamification

Technology provides a range of additional opportunities to influence behaviour, for instance **smartphone apps to incentivise particular forms of travel behaviour** with digital rewards or scores such as the Love to Ride, Betterpoints and Love Exploring Apps. We will explore the best use and application of these platforms to support our LTP4 objectives.

3.13.5 Exploring mobility credits

Mobility Credits provide an innovative way of delivering targeted transport behaviour change. They can take a number of forms. For example, owners of the most polluting vehicles can be asked to scrap their cars in return for a 'mobility credit'. This credit can then be used to pay for a range of public and shared transport, including buses, trains, bike share, car clubs and car rental. The aim is to reduce car ownership and encourage mode shift.

If Mobility Credits are linked to Mobility as a Service (MaaS, as discussed in the **Public/Shared Transport** Policy Area), the credits become part of the wallet people have on the app and can be used to directly pay on selected modes.

Case Study: Mobility Credits Trial

Coventry City Council is working with Transport for West Midlands on a 'Mobility Credits' trial.

In a national first, Coventry residents with an older, polluting car will be able to **exchange their vehicle for mobility credits.** The credits can be spent on public transport, as well as new transport modes such as car clubs, bikeshare or new bus services.

Anyone taking part in the trial will be able to access their credits through a mobile app, which allows them to plan, book and pay for journeys using mobility credits. We will monitor the results of this and any similar trials.

Source: **www.coventry.gov.uk**

3.14 Sustainability impact assessments and policies for delivering the LTP4

3.14.1 Introduction

Implementing the LTP4 Policy Areas will require maintenance and operation of the existing transport network and may require construction or enhancement of infrastructure. These developments have the potential to impact the environment and local communities and visitors to the affected area. We will ensure that throughout our design and implementation process we understand and take account of the potential impacts and, wherever possible, specify designs to avoid or mitigate them, or enhance them where appropriate.

Where new or upgraded infrastructure is required under LTP4, or plans are made for maintenance or operation of the existing transport network, before construction or implementation. Measures will be subject to the appropriate level of assessment by the relevant authority, reflective of the scale and nature of the project. This will ensure that we understand potential impacts and how these can be best avoided or mitigated, or enhanced where beneficial.

Dependent on the scheme, assessment will include, as required, Health Impact Assessment, Equalities Impact Assessment, Habitats Regulation Assessment and Environmental Impact Assessment. Where these statutory assessments are undertaken, where relevant they will be guided by the HM Treasury Green Book and DfT Transport Appraisal Guidance (or equivalents prevailing at the time) throughout the life of LTP4.

3.14.2 Working with partners

We will work closely with partner organisations, including the Districts and Boroughs to ensure that consideration of sustainability, including health and equality, is made at the earliest possible planning stage for schemes. We will identify the types of assessment that are appropriate for the scale and nature of the scheme at each stage of development and which organisation has responsibility for the assessment process.

This will allow for full consideration of requirements in Local Plans and required statutory processes as necessary.

3.14.3 Health and equality impacts

Infrastructure development or enhancement and transport maintenance or operational regimes could have both beneficial and negative impacts on local communities, or visitors to the surrounding area. The impacts could be experienced in different ways by different individuals. Those members of society who may be considered vulnerable due to such differentials as age, health, ethnicity, sex or income or who have protected characteristics under the Equality Act 2010 may potentially be impacted in a different manner, or to a different degree than other members of society.

Therefore, as part of planning our LTP4 measures, a Health Impact Assessment (HIA) and / or an Equalities Impact Assessment (EqIA) will be undertaken where appropriate to consider potential impacts on these individuals or groups and to inform the process of designing and planning the measures.

Any HIA or EqIA undertaken will detail potential impacts and consider how adverse effects can be mitigated and beneficial effects maximised. For example, it would be likely to consider issues such as severance to key services and community facilities and safety, with a particular focus on ensuring that those most vulnerable or disadvantaged can access opportunities that would otherwise be closed to them. This will help LTP4 to ensure fair and equitable access to services, facilities and amenities for all and will be a key consideration on all relevant schemes.

We will proactively consider health and equalities issues from the earliest stage in designing and specifying our LTP4 measures. For, example we will follow the principles of 'Security by Design' to ensure a safe and inclusive transport network, safety will be a fundamental consideration in the design and delivery of all new transport interventions. We will account for the findings of any HIA or EqIA undertaken and, wherever possible, will design the LTP4 measures to have a positive impact on health and equality for all members of society.

3.14.4 Environmental impacts

Infrastructure development or enhancement, transport maintenance or operational regimes could also impact on many aspects of Surrey's environment. In developing LTP4 measures, we will have a presumption in favour of working with partners to make net improvements to the local environment wherever possible and, as a minimum, will always follow the policies set out in this LTP4 to take every opportunity to protect and enhance the environment.

For all relevant LTP4 measures under the planning control of the county council, we will undertake Habitat Regulations Assessment and Environmental Impact Assessment, as appropriate, and act upon their findings in specifying and delivering the measures.

For any measures that could potentially affect sites that are designated for nature conservation or for other reasons, such as geodiversity, we will appropriately assess any potential direct or indirect impact that may arise over the life span of LTP4. We will mitigate and / or compensate for any impacts, in line with existing best practice and relevant legislation. This will include undertaking a Habitats Regulation Assessment (or equivalent) when necessary.

Where possible, opportunities will be identified to **enhance the designated sites,** through for example, planting of species that will increase habitat, or through measures to reduce air pollution and therefore reduce deposits of pollutants on these areas.

Environmental Management Plans (EMPs) will be prepared and implemented for all construction, refurbishment and maintenance contracts and will include the findings and suggested mitigation from any assessment made. The EMPs will consider material resource use, energy use, and other environmental issues relevant to the scheme, and will explain how risks and impacts will be mitigated, managed and addressed.

Scheme design will proactively consider environmental protection from the earliest stage, Infrastructure, transport operations and maintenance required to deliver the LTP4 will be specified to ensure that the processes of scheme construction, maintenance and operation identify and take opportunities available to:

Improve air quality

- Incorporate features with the capacity to absorb or dissipate nitrogen dioxide and other pollutants into the design of new schemes.
- Incorporate measures to reduce or mitigate noise or odour impacts into the design of schemes.
- Incorporate measures to reduce or mitigate light pollution into the design of new schemes where required.
- Address transport emission contributions to the issues identified in the Air Quality Action Plans for the Air Quality Management Areas that have been declared by the Districts and Boroughs.

Reduce carbon emissions

- Minimise the amount of embodied carbon 'designed in' to new infrastructure and reduce construction waste.
- Minimise the amount of operational carbon 'designed in' to service delivery, including for example minimising energy use in traffic signals and street lighting.
- Use the transport estate to generate low carbon energy.
- Help to transition to a 'circular economy', reducing resource use.
- Help to remove residual carbon emissions from the atmosphere, including by enhancing green infrastructure with planting to sequester carbon.

Build in resilience to climate change

- Work with partners to build resilience to flooding, including measures such as introducing green and blue infrastructure and Natural Flood Management or Sustainable Drainage Systems (SuDS) which will improve water quality.
- Avoid sites in areas of known flood risk when possible.
- Ensure appropriate compensatory measures are implemented when there is no other option to avoid land take from areas of flood plain.
- Build in capacity to withstand extremes of temperature, with adequate heating or cooling systems on transport vehicles and in stations.
- Introduce new planting to help ameliorate the impacts of climate change, for instance by providing shade or acting as wind breaks.

Avoid and protect areas that are recognised at the highest levels for their importance to nature conservation and biodiversity, including those areas designated at the International level such as Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar and sites with the potential to be designated in these categories:

- Recognise that sites such as SAC and SPA provide essential core breeding and resting sites for a range of rare and threatened species and rare natural habitat site and therefore must be protected from direct and indirect impacts of the transport network.
- Account for legally required assessments (e.g. Habitat Regulations Assessments for works likely to have to significant effects on SPAs or SACs), submitted to the relevant bodies for approval (e.g. Natural England) and ensure that relevant mitigation measures noted in these assessments are enacted.
- Account for potential impacts on ecological networks and protect those nationally designated sites such as Sites of Special Scientific Interest (SSSI) and locally designated sites such as Local Nature Reserves.
- Account for the results of ecological surveys for schemes, where required, ensuring that the mitigation hierarchy (avoid – mitigate – compensate) is applied.
- Integrate ecological principles based on work with partner organisations such as Natural England, local Districts and Boroughs and relevant conservation bodies.

- Reflect a requirement that all schemes that need planning permission must demonstrate biodiversity net gain, with a target increase reflective of targets set by the Districts or Borough for the relevant Local Plan area.
- Pursue opportunities to contribute to the development of Nature Recovery Networks, for example through the creation of new areas of key habitats (e.g. woodland, wetland, grassland, etc.), wherever possible.

Protect Surrey's ecology, landscape and townscape

- Where possible protect features of ecological importance such as ancient woodland and veteran trees and take opportunities to plant species native to Surrey / the South East of England and species of particular benefit to biodiversity such as pollinators.
- Respect and where possible enhance the character of the host landscape in which a scheme is located. Drawing on the Surrey Landscape Character Assessment and accounting for the diversity and distinctiveness of the landscape, including Areas of Outstanding Natural Beauty (AONB).
- Mitigate impacts on visual amenity through measures including screening.
- Account for Surrey's townscape and reflect and respect its vernacular architecture, drawing on local design guides and character appraisals where these have been prepared by the Borough or District council.

Protect the historic environment

- Ensure that heritage assets are protected and where possible enhanced, designing schemes to respect the context and setting of historic buildings, structures and landscapes, working with partners and other bodies, including the county council's Heritage Team and Historic England.
- Reflect heritage assessments and/or archaeological investigations.
- Where appropriate, take opportunities to protect and restore features of note from transport heritage such as old bridges.

Protect natural resources

- Protect soil and land resources (including high value agricultural land, safeguarded mineral resources, etc.).
- Maximise opportunities to use previously developed land, including contaminated land that requires remediation.
- Take opportunities to remediate contaminated land, where appropriate.
- Make addressing incidents (e.g. spills of potentially harmful substances) a matter of standard practice for the county council and its contractors.

Protect the water environment

- Account for potential water impacts throughout the design process, informed by surface water, groundwater risk assessments and by flood risk assessments where relevant.
- Undertake Water Framework Directive assessments for new schemes where appropriate, with schemes only progressed if and when any failures have been addressed through design changes.
- Work with partners to promote greater flood resilience.
- Establish processes to respond promptly to transport incidents that could cause pollution.
- Introduce green infrastructure to improve water quality.

Promote circular economy principles

- Reduce the use of materials in design and increase use of recycled and renewable materials.
- Use local suppliers of sustainably sourced and locally produce materials where possible.
- Embed sustainable waste management practices in construction and operation.

3.15 What will the LTP4 Policy Areas mean for Surrey?

Figure 3.17 illustrates how the LTP4 Policy Areas work to change and improve travelling, connecting and living in Surrey. Click on the red crosses for more explanation of what we can achieve with the LTP4 in some of the typical places in Surrey.

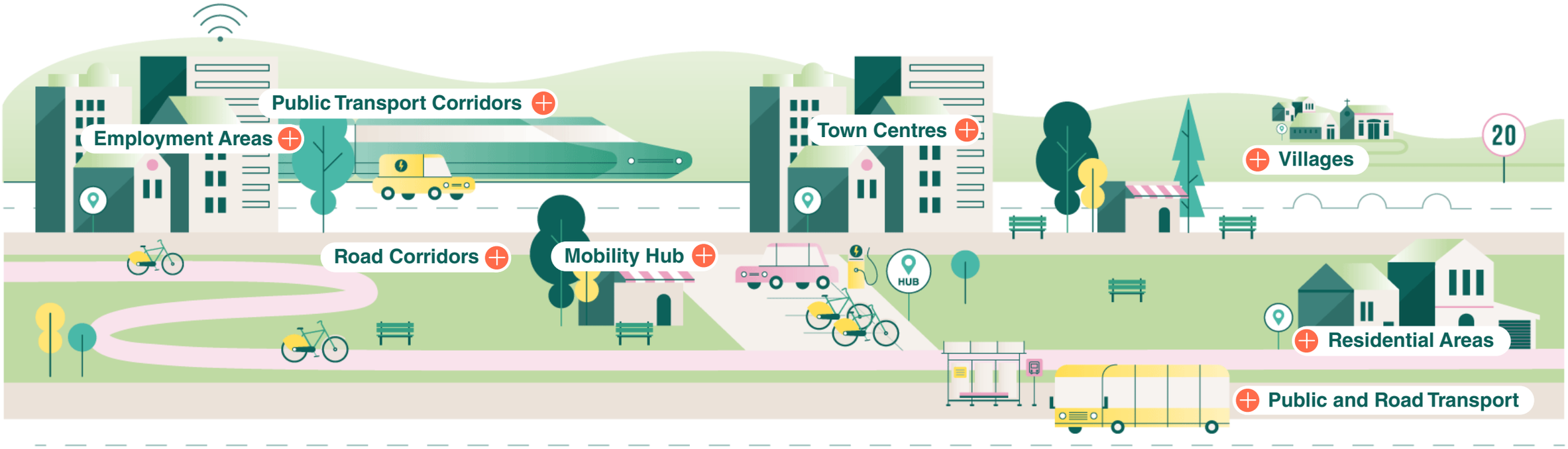


Figure 3.17 – What will the LTP4 Policy Areas mean for Surrey?

Impact strategies

Impact strategies

4.1 Approach

The four Impact Strategies below set out how the LTP4 will deliver each of its four objectives, which in turn support each of Surrey's wider Strategic Priorities (as shown in the **Vision and Objectives** section).

Each Impact Strategy outlines how the measures from the nine Policy Areas will support achievement of the relevant objective.

1. To rapidly reduce carbon emissions, ensuring that Surrey is on track for net zero emissions by 2050.
2. To support Surrey's growth ambitions and enable businesses and people to prosper sustainably.
3. To provide well-connected communities that encourage social mobility and ensure no-one is left behind.
4. To create thriving communities with clean air, excellent health, wellbeing and quality of life.

4.2 Impact Strategy 1: To rapidly reduce carbon emissions, ensuring that Surrey is on track for net zero emissions by 2050

4.2.1 The need for a carbon reduction strategy

The county council has declared a **climate emergency and has committed to achieving net zero greenhouse gas emissions in the county by 2050,** in line with the national government target. Transport greenhouse gases accounted for 46% of Surrey's total in 2019 and were almost entirely carbon dioxide or 'carbon' emissions. **Surrey's Climate Change Strategy** sets an interim target of a 60% reduction in transport emissions by 2035 relative to the business as usual. This will be a challenging target to meet and our carbon reduction strategy is needed to set out our plans for delivery.

For the full evidence base that sits behind the LTP4 and this objective, please see the **Evidence Base** document.

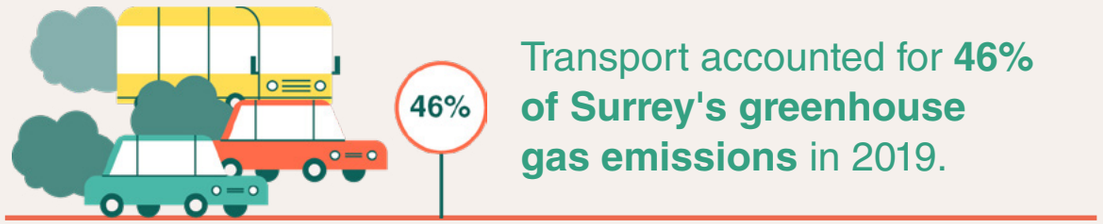


Figure 4.1 – The need for a carbon reduction strategy

4.2.2 Achieving success

Carbon emissions from transport are the result of two factors:

- The **number of kilometres** travelled by different vehicle types each year; and
- The **carbon emissions produced per kilometre travelled** by each vehicle type (the carbon intensity of travel). This in turn depends on fuel type, vehicle design and factors such as driving speed.

This means that successfully delivering our objective of net zero transport carbon emissions by 2050 (and a 60% reduction in emissions by 2035) will involve achieving a significant reduction in vehicle kilometres alongside a decrease in the carbon intensity of the remaining vehicle kilometres.

We can deliver the reduction in vehicle kilometres by:

- Reducing the number and length of trips made (avoiding travel); and/or
- Shifting travel to active modes or higher occupancy vehicles such as buses.

This is an important step in achieving rapid carbon reduction as introducing electric vehicles widely will take 10 years or more to feed through to significant emissions reductions. In time, once most vehicles are low or zero emissions, the reduction in vehicle kilometres will still be needed to reduce demand on limited supplies of low and zero emissions electricity.

The reduction in carbon intensity of remaining vehicle kilometres can be achieved by:

- Encouraging a change to improved, lower emissions vehicles; and
- Achieving mode shift to more efficient modes.

Figure 4.2 highlights that successfully reducing carbon emissions will depend on **moving trips away from petrol and diesel car travel to smaller, electric vehicles as well as more sustainable modes of transport in the travel hierarchy, or alternatives to travel.** Continued reduction in the carbon emissions generated in electricity generation will also be an important part of the change required but is outside the scope of the transport sector.

Action needs to be taken quickly to achieve these outcomes, as vehicles and transport systems typically have lifespans of ten or more years and therefore decisions made now will ‘lock-in’ the carbon intensity of our travel over decades.

The graph clearly shows the emissions benefit to be gained by switching from petrol and diesel car trips to public transport, electric vehicles and smaller vehicles.

The figures presented are strongly dependent on assumed occupancy. The DfT estimate that average car occupancy is 1.6. The bus figure assumes an average of 11 passengers and so would improve if occupancy increased.

The figures assume average traffic conditions. All figures for electric vehicles assume current electricity mix and will reduce as electricity generation gets greener.

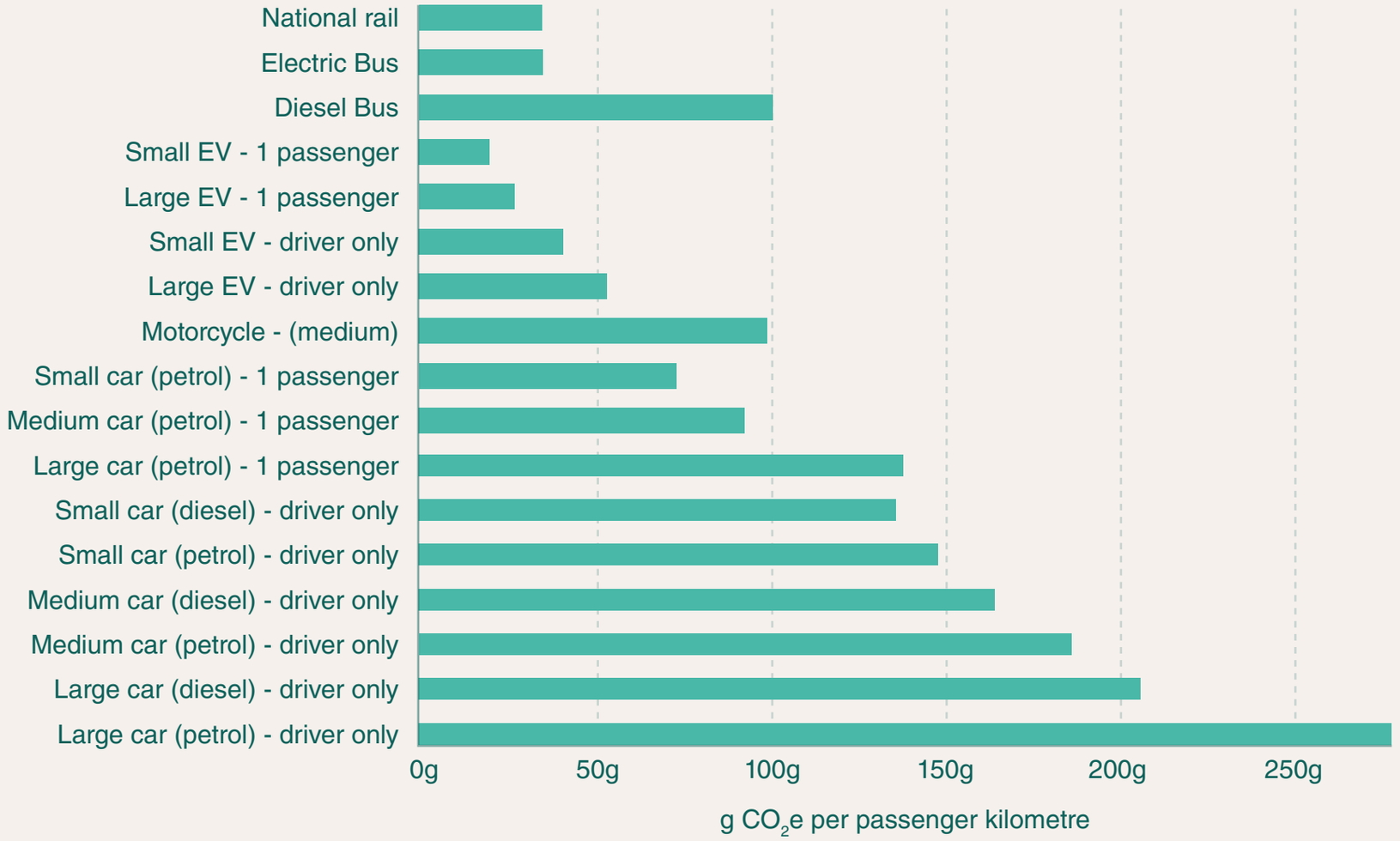


Figure 4.2 – Carbon emissions per passenger kilometre, Source: BEIS Greenhouse Gas Conversion Factors 2021, Scope 2

Impact assessments and policies to support sustainability in **delivering the carbon reduction strategy**

New or upgraded infrastructure, transport system maintenance and operations regimes required to deliver the carbon reduction strategy will be assessed from the early stages of development to understand any potential **health, equality and environmental impacts.**

Specification, design and implementation of any LTP4 measures will, wherever possible, **avoid or mitigate any potential negative impacts identified and enhance any potential positive impacts.**

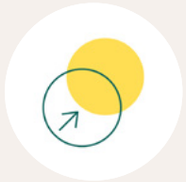
Further detail is provided in the **Sustainability impact assessments and policies for delivering the LTP4** section.

4.2.3 Role of Policy Areas

All nine Policy Areas will play an important part in achieving our carbon reduction objective, as illustrated in the **Logic Map** in section 3. Combined, the Policy Areas will deliver action to reduce emissions through measures that **Avoid, Shift and Improve** travel (as set out in the **Policy Areas** introduction).

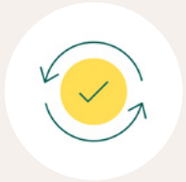
Avoid

Reduce the number and length of trips needed by improving land use planning, travel planning and levels of digital connectivity.



Shift

Shift travel to more sustainable modes: public transport, walking, and cycling, away from car use.



Improve

Improve emissions intensity and energy efficiency of vehicles and operational efficiency of roads, through technology improvements.

The following sections outline how the measures under each Policy Area will contribute to carbon reduction. For more detail on all the measures below please refer to the **Policy Area table** and the separate individual Policy Area sections.

Planning for Place (Avoid)

The Planning for Place Policy Area aims to encourage more local living through measures including:

- Establishing '20-minute neighbourhoods';
- Developing a Surrey street family framework; and
- Ensuring that new development is focussed around sustainable travel options.

These measures will make an important contribution to carbon reduction by decreasing car vehicle kilometres through:

- **Reducing the length and the number of trips** that each person needs to make as it will be possible to access services, opportunities and other activities more locally, allowing for shorter trips and increasing opportunities to combine trips.
- **Providing the context for mode shift** away from cars as:
  - The **shorter, more local** trips will be within distance ranges suitable for walking and cycling (or e-biking) for a significant proportion of the population. Conditions will also be more attractive for walking and cycling due to active mode prioritisation and speed limit reductions on local roads identified through the Surrey street family and Healthy Streets framework.
  - **More activities will be within easy reach of public and shared transport** provision.

The carbon reduction impacts of **Planning for Place** will be greatest if the measures are combined with action in our other policy areas including **Active Travel/Personal Mobility** and **Public/Shared Transport.**

Digital Connectivity (Avoid)

The Digital Connectivity Policy Area aims to support increased accessibility to online opportunities through measures including:

- Supporting extensive rollout of fibre broadband and 5G mobile coverage; and
- Supporting development and raise awareness of online opportunities and services.

Improved digital connectivity has the potential to reduce carbon emissions by **reducing vehicle kilometres** as people will be able to replace trips with online activity. However, it is important to note that there is a **risk of a 'rebound effect',** which could offset some of the carbon emissions savings. For instance, people who do not need to travel to work or appointments may use their newly 'freed-up' time to travel for other reasons, or may make additional online orders and generate associated van delivery movements. There may also be implications for the energy sector of increased daytime household energy use.

Our measures therefore need to be **carefully designed** and applied in conjunction with other policy areas, particularly **Planning for Place.** If people live within 20-minute neighbourhoods it is more likely that any 'rebound' trips will be short and therefore will produce limited emissions, particularly if made on foot or by bike. Additionally, the neighbourhood is likely to include local delivery hubs to reduce the implications of increased home deliveries.

Active Travel/Personal Mobility (Shift)

The Active Travel/Personal Mobility Policy Area aims to encourage mode shift to active travel and other personal mobility options through measures including:

- New, extended and improved routes;
- Supporting facilities;
- Measures to encourage change on longer journeys;
- Measures to increase awareness and safety;
- Hire schemes; and
- E-cargo bikes.

Achieving mode shift to active modes and personal mobility options will reduce carbon by **reducing the number of car vehicle kilometres** travelled.

To maximise the impact on carbon emissions, trips by active modes will need to **replace longer trips** by car and therefore our most relevant measures for the carbon reduction strategy include:

- Providing **active travel access to public transport** so that it provides the first and last leg in longer journeys that may previously have been completed by car;
- **Integrating active travel measures with Planning for Place** measures, promoting 20-minute neighbourhoods and increasing the number of trips occurring within walking and cycling distance ranges, replacing previous longer distance trips; and
- **Encouraging the use of e-bikes** and potentially e-scooters (dependent on the result of ongoing trials) to extend the range and the routes for which cycling and personal mobility is appropriate.

Active travel in the form of **eCargo bikes** is also one of our options to reduce freight emissions by replacing goods vehicle kilometres, saving approximately 1 kg of carbon dioxide equivalent per goods vehicle kilometre.

Public/Shared Transport (Shift)

The Public/Shared Transport Policy Area aims to encourage mode shift to public and shared transport through measures including:

- Improving, integrating and simplifying services;
- Improving journey time reliability;
- Simplifying fares and ticketing;
- Improving accessibility and safety;
- Expanding shared transport provision; and
- Developing Mobility Hubs.

Encouraging mode shift to public and shared transport will reduce carbon emissions by **reducing the number of car vehicle kilometres** travelled.

Public transport services will play a key role as they carry passengers over long distances and directly replace the greatest proportion of car kilometres removed by mode shift.

However **shared transport and supporting measures** will also play a fundamental role. They help to provide a more complete, attractive and feasible alternative to journeys previously made by car, encouraging mode shift to take place. For instance, e-bike hire might solve the problem of the last leg of a journey to a destination some distance from a station.

Car clubs can help to reduce car ownership by providing an accessible option for occasions when a car is the only feasible option for a journey. This means that people will have less need to own a car and those that don't are then more likely to use public and shared transport for other journeys. Even when car club vehicles are used they typically save carbon compared to an average owned car, as they encourage the use of smaller and electric vehicles.

Integration, both physically through Mobility Hubs and digitally through MaaS, will play an important role in carbon reduction by increasing awareness and the ease of use and attractiveness of alternatives to car travel, further encouraging mode shift.

Demand Management for Cars (Shift)

The Demand Management for Cars Policy Area aims to support mode shift and reduce car use by reducing the priority given to cars over other modes through measures including:

- Altering parking supply and charges;
- Traffic calming;
- Engaging with eco-levy (pay as you drive) developments; and
- Using charging revenue to support sustainable modes.

Reducing the priority given to car use and **making the costs of different modes more comparable** will play a key role in reducing carbon from car travel.

The potential impacts of measures to alter parking provision, parking and travel costs and traffic priority will include changes that will Avoid, Shift and Improve travel as follows:

- **Avoid:** Demand management can reduce travel by encouraging people to combine trips, share trips with others or make more local trips.
- **Shift:** the levelling up of costs will encourage people to use more sustainable modes, reinforcing the impact of the Active Travel/Personal Mobility and Public/Shared Transport Policy Areas
- **Improve:** costs will vary by emissions level and therefore are likely to encourage use of smaller, low emissions vehicles either through choice of owned vehicles or encouraging use of car club vehicles.

We will ensure that the **needs of blue badge holders** and residents with limited mobility are accounted for in all measures applied.

The revenue raised by any charges will also be an **important source of funding** to support our other policy areas, strengthening the alternatives to private car use further encouraging mode shift.

Demand Management for Goods Vehicles (Shift)

The Demand Management for Goods Vehicles Policy Area aims to manage the impact of goods vehicles through measures including:

- Introducing delivery restrictions and consolidation;
- Altering traffic routing, speeds and priority; and
- Engaging with eco-levy (pay as you drive) developments.

Improving management of goods vehicles will reduce carbon emissions by:

- **Reducing vehicle kilometres travelled by encouraging consolidation of loads and further planning of routes** and, in some cases, **mode shift** to rail. This will reduce the number of trips made and the distance travelled; and
- Transferring goods to **lower emissions vehicles for the last legs** of their journeys, for instance electric vans, e-Cargo bikes or Cargo bikes.

These impacts will be useful but fairly limited in their contribution to emissions reduction. National actions, particularly around future heavy goods vehicle types (such as hydrogen or electric vehicles), will have the greatest implications for freight emissions.

Management of goods vehicle routing on the basis of the new **Surrey street family** and Healthy Streets framework will also have the secondary effect of reducing emissions by improving conditions for walking and cycling and in turn encouraging people to change mode.

Additionally, revenue from any charges would help **fund improvements for other policy areas,** helping to strengthen alternatives to car travel and increase mode shift.

Efficient Network Management (Improve)

The Efficient Network Management Policy Area aims to make safe and efficient use of the existing road network through measures including:

- Data driven network management;
- A ‘Vision Zero’ approach to road safety;
- Enforcement;
- Targeted capacity improvements;
- Network maintenance; and
- Futureproofing for new technology.

Meeting the LTP4’s carbon objective will require a marked reduction in road traffic and therefore in most cases there will not be a case for investing in new road capacity. Evidence shows that new capacity increases traffic levels and emissions. Instead, the focus will be on ensuring **efficient use of the existing network without encouraging additional traffic.**

The most effective measures will be those that **provide information to reduce travel distance** (for instance avoiding diversions) and particularly those that **smooth the flow of traffic** (without increasing volumes). Emissions can be reduced by ensuring that traffic can travel at the most efficient speed for petrol and diesel vehicles (of between about 20 mph and 50 mph). This means avoiding inefficient congested conditions and very high speeds.

Promoting Zero Emission Vehicles (Improve)

The Promoting Zero Emissions Vehicles Policy Area aims to accelerate ZEV uptake in Surrey through measures including:

- Planning and enabling charging and fuelling infrastructure;
- Accelerating the uptake of ZEV amongst council and wider fleets; and
- Expanding EV car clubs.

Changing Surrey's vehicles rapidly and efficiently to low and ultimately zero emissions vehicles will deliver substantial carbon emissions reductions by **reducing the emissions produced per vehicle kilometre.**

Much of the change will depend on **national action** (such as the government's petrol and diesel car/van sales ban in 2030 and the vehicle industry's response). However, our measures will ensure that we move change in Surrey forward rapidly and in an equitable manner.

The impact will be greatest when **supporting change of larger vehicles that travel long distances** such as buses, taxis, delivery vans or company fleets.

Introducing **EV car clubs** will help to accelerate change in the private car fleet by upgrading fewer and smaller vehicles that will then be used more intensively. This will also help to ensure that we **limit the number and size of vehicles purchased** as part of the upgrade. We shouldn't simply replace the existing vehicle fleet with an electric fleet because the emissions produced by vehicle manufacture are significant.

Although the manufacturing emissions are outside the scope covered by Surrey's Climate Change Strategy, they will contribute to overall totals. Producing fewer vehicles and smaller vehicles will reduce emissions.

Planning and enabling **well positioned public charging infrastructure** for electric vehicles (including e-bikes and e-scooters) on street and at destinations such as retail and leisure centres will also play an important role in supporting uptake. The points will provide confidence in charging opportunities, particularly for drivers without off-road parking.

Supporting Behaviour Change (All)

The Supporting Behaviour Change Policy Area aims to encourage the behaviour changes amongst those travelling in Surrey that will be needed to support the other eight Policy Areas through measures including:

- Developing and expanding current behaviour change work;
- Adopting technology and gamification; and
- Exploring mobility credits.

Comprehensive behaviour change measures will be important to maximise awareness of each of our other eight Policy Areas and increase the response to the measures. This will help to increase the speed and scale of carbon emissions reduction by making changes across all policy areas that Avoid, Shift and Improve travel.

4.2.3 Estimated carbon reduction impact – all Policy Areas

The bars in Figure 4.3 show indicative forecast annual transport carbon emissions at 5-year intervals through to 2050 for three scenarios:

- **Business as usual** – without national action to ban car/van petrol/diesel sales;
- **National action** – assuming the sales ban is introduced in 2030 with associated national and local action to support it; and
- **LTP4 measures** – assuming national action plus intensive roll out of LTP4 measures.

The lines on the graph show the Surrey Climate Change Strategy target carbon reduction pathways separately for both transport emissions and emissions from all sectors. They show the level of carbon reduction needed if cumulative emissions between now and 2050 are to stay within a fair 'budget' identified for Surrey.

If LTP4 measures in all **nine Policy Areas** are implemented **to an ambitious scale** across Surrey, they will **reinforce each other to provide a large-scale change in transport patterns** and a shift away from long distance, carbon intensive travel.

We estimate that LTP4 measures combined could, by 2030, reduce transport emissions by approximately 15% to 20% beyond the national action scenario.

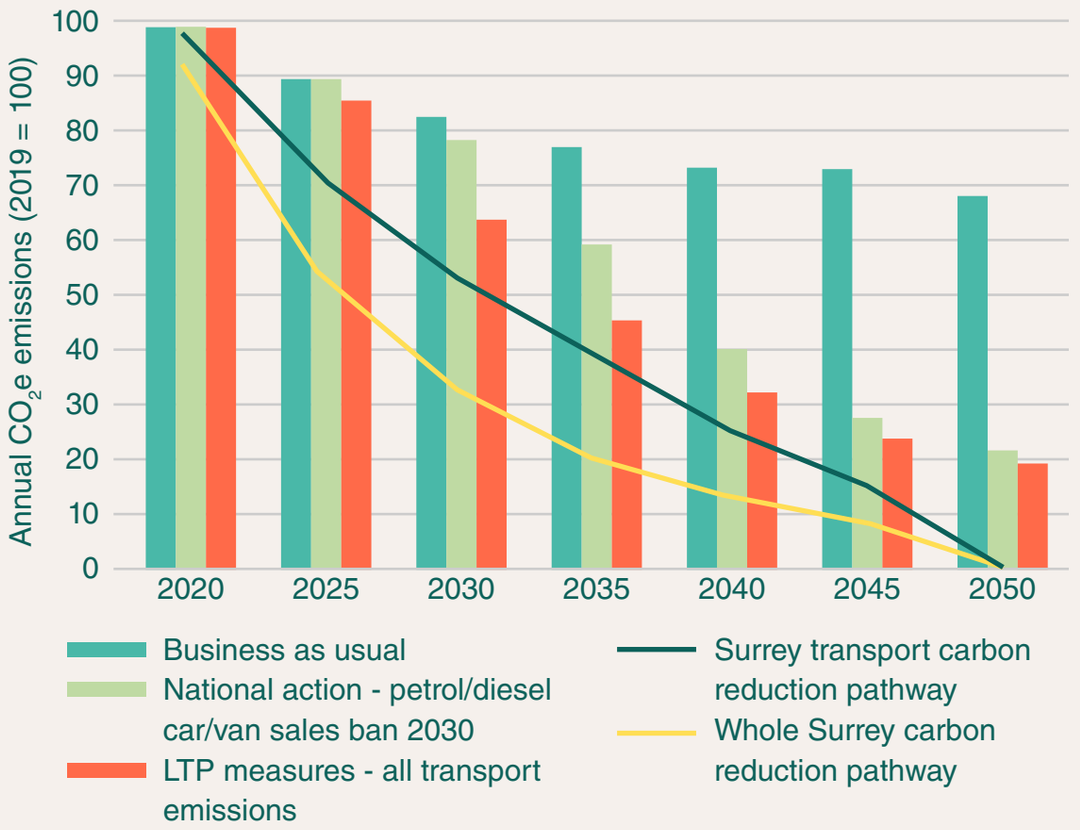


Figure 4.3 – Estimated transport carbon emissions with ambitious roll out of LTP4 measures

The LTP4 measures have **greatest impact on passenger transport** (from cars and public transport). If **combined with national action** to stop sales of petrol and diesel cars and vans from 2030, **ambitious roll out of the LTP4 measures** could reduce passenger transport emissions (without goods vehicle emissions) to align closely with the transport carbon reduction pathway from approximately 2030.

However, the LTP4 measures have relatively limited impact on heavy goods vehicles emissions. **Coordinated national action** is likely to be needed to identify the preferred route to **decarbonising HGVs** (e.g. hydrogen or electric vehicles or a combination of both). Without this change, total transport emissions in Surrey (passenger transport and goods vehicles) will remain above the pathway as shown in Figure 4.3.

Therefore, to limit Surrey's cumulative transport emissions to within the available carbon budget through time, **passenger transport emissions may need to reduce even further** in the late 2020s and through the 2030s to compensate for:

- Emissions exceeding the pathway in the early 2020s as measures take time to take effect; and
- Lack of currently available measures to reduce heavy goods vehicle emissions.

4.2.4 What will the carbon reduction strategy mean for Surrey?

Figure 4.4 illustrates some of the main ways in which the LTP4 Policy Areas may combine to reduce carbon emissions in Surrey.

LTP4 objective: To rapidly reduce carbon emissions, ensuring that Surrey is on track for net zero emissions by 2050.

The impacts of LTP4 on carbon emissions

Looking forwards with the LTP4 measures in place, transport carbon emissions in Surrey have significantly reduced.

Traffic flows are lower as people:

Use **digital services** and opportunities more.

Travel more on foot and by bike using new routes and rebalanced traffic calmed roads and use the **expanded opportunities in their local centre.**

Travel more by public or shared transport accessed by Mobility Hubs and using a MaaS app.

Receive **deliveries that arrive by e-cargo bike** or electric van for their last leg.

Emissions per vehicle kilometre are lower as:

Traffic flows more smoothly.

An increasing number of vehicles are **smaller and electric vehicles.**

Figure 4.4 – What will the carbon reduction strategy mean for Surrey?

4.3 Impact Strategy 2: To support Surrey's growth ambitions and enable businesses and people to prosper sustainably

4.3.1 The need for a sustainable growth strategy

Our economy is strongly influenced by transport and connectivity within and beyond Surrey. The sustainable growth strategy will ensure that the LTP4 measures successfully support Surrey's growth ambitions amidst changing economic conditions and requirements.

For the full evidence base that sits behind the LTP4 and this objective, please see the **Evidence Base** document.

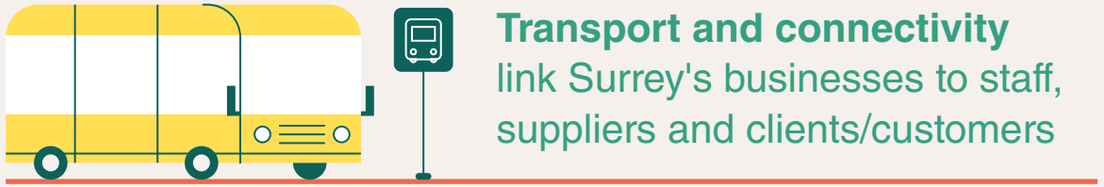


Figure 4.5 – The need for a sustainable growth strategy

Achieving success

Transport and connectivity play an important role in our economy, in particular:

- For **town centres,** transport has an important impact on how easily customers can access businesses and how attractive the centre feels as a place to spend time and therefore money with local businesses.
- For businesses across all sectors, transport and connectivity provide the **links between businesses and their staff, suppliers, clients and customers.** New transport connections also provide the opportunity to **open up development land** to support delivery of affordable homes and expansion of successful economic areas.

Town centres

Good quality access to town centres by walking, cycling, personal mobility options and public transport **increases the number of people who are able to visit.** Evidence suggests that it may also increase the number of visits per person (discussed further under Planning for Place below).

Transport provision also affects how **attractive the centre is as a place to visit.** For instance, shops, restaurants and many entertainment venues rely on passing trade and are more successful in environments that attract people to spend time and visit more destinations. Areas that are dominated by moving and parked cars and goods vehicles are typically less attractive than quieter streets where priority has been given to pedestrians and cyclists and that provide green space and a range of activities.

Surrey's Place Ambition highlights the importance of Surrey's town centres to our economy and the role of transport in enhancing Surrey's towns, making them more **attractive places to live and work.**

This theme is likely to be given greater emphasis as the Place Ambition is revised in 2021 to reflect the work underway to produce a Surrey wide Green Infrastructure Strategy and the impacts of UK's transition from the EU and of the COVID-19 pandemic. It will recognise that the pandemic has had significant impacts on town centres, accelerating the long running decline of the high street but also increasing the amount of time that people spend in their local town centres.

Business connections

Good, reliable **connections between businesses and their staff, suppliers, clients and customers** help to reduce costs for businesses and support their success by expanding their reach for staff and customers/clients.

Surrey is already one of the best-connected areas in the country. Our proximity to London is an important strength, as is our position at the heart of the South East, which provides easy access to jobs and markets in other economically successful areas, such as the Thames Valley and the M3 Corridor.

In addition, Surrey's strong international connectivity, due to its access to London's two main airports at Heathrow and Gatwick, has been an important driver of business location decisions within the county.

Surrey's Place Ambition highlights the importance of maintaining these strong connections and identifies several ways in which **improved connectivity could support sustainable growth** in Surrey, including rail enhancements, improvements to strategic movement corridors and enhanced digital connectivity.

It identifies eight **Strategic Opportunity Areas SOAs** (see Figure 4.6) where investment in transport and connectivity would bring the greatest benefits for sustainable growth. Connectivity improvements in the SOAs would improve connectivity both within Surrey and to other important economic areas and would support Surrey's key economic assets such as universities, transport hubs, major employment sites and priority economic sectors.

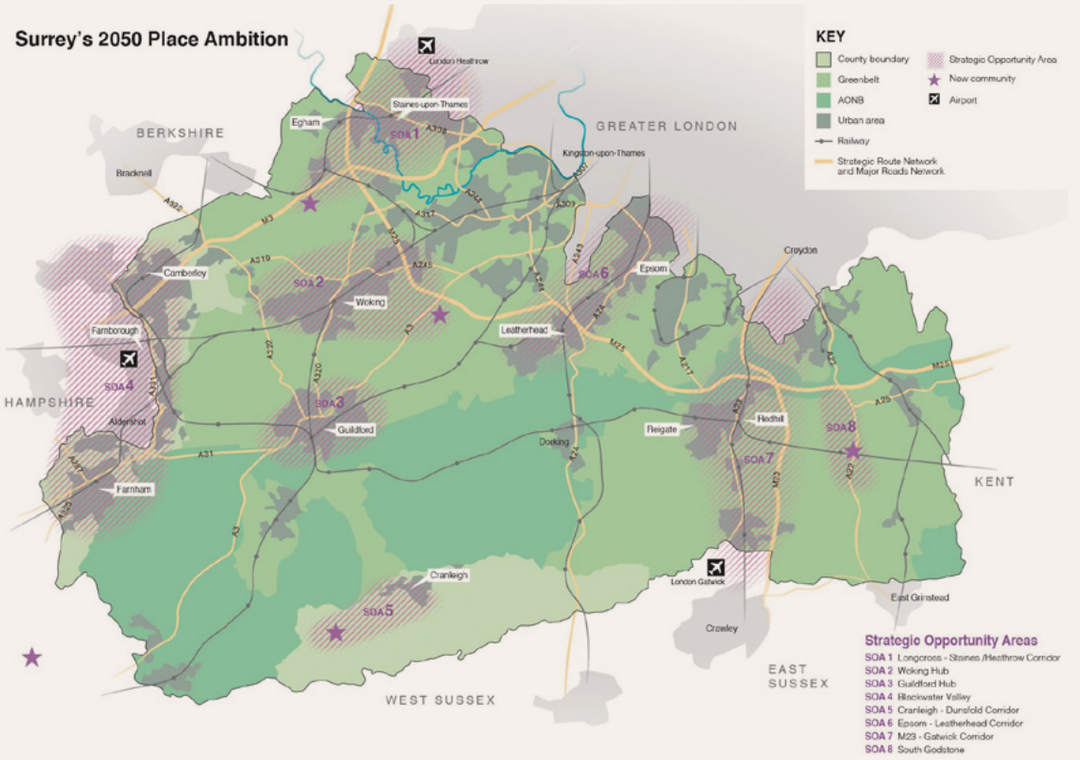


Figure 4.6 – Surrey's Strategic Opportunity Areas

Wider economic context

Whilst transport and connectivity are important for businesses, they are just one of a complex combination of factors that contribute to Surrey's successful economy. Other relevant factors include our workforce skills, local environment and economic history. Surrey's Economic Strategy Statement highlights that **supporting sustainable growth will need measures across a range of areas,** including increasing skills levels in the county. This provides important context for the transport and connectivity measures in the LTP4.

The LTP4 is also affected by the fact that it has been written during a **period of economic uncertainty** caused by the **COVID-19 pandemic.** Surrey's Economic Strategy Statement highlights that in the short to medium term there will be a need to recover and rebalance from the substantial rise in unemployment during the pandemic and weakening of retail and hospitality businesses.

The medium and long-term impacts of the pandemic on travel behaviour and the economy are not yet clear, but we are likely to need to adjust to changes including alterations to commuting patterns and the relationship with London and an increased use of local town centres, alongside an overall decline in traditional high street shops and activity.

The economy is also **changing in response to other major influences** including the UK's transition from the EU and the need to meet the national and county commitment to net zero greenhouse gas emissions by 2050. Given the scale and pace of change anticipated in the transport sector and other sectors, there will inevitably be some trade-offs. Some businesses will experience a net benefit as a result of the change and others will experience a net disbenefit.

The LTP4 measures have been developed to help achieve sustainable growth in Surrey's economy in the context of the **changes in county, regional and national economies.** For instance, given the rapid change needed to meet net zero by 2050 and intermediate carbon reduction targets, Surrey's economy will be more successful if our businesses act early to respond to changes that a net zero economy will need. Surrey's Economic Strategy Statement recognises that it is important to our economy that our businesses are at the 'leading edge' of carbon reduction.

LTP4's role in delivering sustainable growth

The LTP4 measures to improve accessibility (whether physical, spatial or digital as shown in Figure 1.12) will contribute to delivering Surrey's sustainable growth by providing:

- **Attractive places** for business and their customers, affecting choices of business locations and encouraging customers to visit and stay.
- **Good quality accessibility between businesses and employees, suppliers and customers/clients** providing access to the inputs and markets that businesses need for success.
- **Reliable end to end journey times for people and goods** including the 'first and last miles' of journeys, helping to improve business planning. This will be achieved by improving the range and quality of connections and reducing congestion in key areas.
- **Reliable, multi-modal or digital connectivity between key hubs** including international gateways which have been instrumental in many businesses' location decisions.
- **A resilient, future ready transport network,** ready for both changes in technology, such as connected and autonomous vehicles, and changes in climate. Ensuring that our transport system is futureproofed will avoid losses due to lack of preparation and make sure we can make the most of any opportunities.

Impact assessments and policies to support sustainability in **delivering the sustainable growth strategy**

New or upgraded infrastructure, transport system maintenance and operations regimes required to deliver the sustainable growth strategy will be assessed from the early stages of development to understand any potential **health, equality and environmental impacts.**

Specification, design and implementation of any LTP4 measures will, wherever possible, **avoid or mitigate any potential negative impacts identified and enhance any potential positive impacts.**

Further detail is provided in the **Sustainability impact assessments and policies for delivering the LTP4** section.

4.3.2 The role of Policy Areas

All nine Policy Areas have a role in supporting sustainable growth in Surrey through the direct and indirect impacts of transport and connectivity on businesses. Some of the areas contribute more directly to economic performance than others. However they all work together so that the combined package of Policy Areas achieves more than the individual Policy Areas alone. The relevant links are illustrated in the **Logic Map** in Section 3.

The following sections outline the types of measure under each Policy Area that will have most impact on Sustainable Growth, through impacts that Avoid, Shift and Improve travel (as set out in **Figure 3.1**).

For more detail on all the measures below please refer to the **Policy Area table** and the separate individual Policy Area sections.

Planning for Place (Avoid)

The Planning for Place Policy Area aims to encourage more local living through measures including:

- Establishing '20-minute neighbourhoods';
- Developing a Surrey street family framework; and
- Ensuring that new development is focussed around sustainable travel options.

There is growing evidence that focussing activity in local 20-minute neighbourhoods can provide a significant boost to many businesses, particularly those relying on the general public as customers (see box).

Surrey's Economic Strategy Statement recognises that hyper-local and connected centres will form an important part of Surrey's growth.

20-minute neighbourhoods can support strong economic growth in the neighbourhood centre. The number of visits by residents in the neighbourhood provides a consistent customer base that is sufficient to support a range of retail, service and leisure businesses.

As the range of opportunities and offerings expands, the number of visits increases, further increasing the customer base and the case for new businesses to be established.

This **virtuous circle** is reinforced by the fact that a high proportion of visits will be on foot or by bicycle and evidence suggests that those arriving by active modes will be likely to spend longer in the centre and visit more outlets than those arriving by car (see Active Travel/Personal Mobility section.)

The move to more local journeys associated with 20-minute neighbourhoods will bring several travel benefits for customers and employees travelling to businesses within the neighbourhood:

- **Travel costs will be reduced** by journeys being shorter and there being more scope to use the cheapest modes of walking and cycling and other personal mobility options;
- **Journey reliability will be improved** by journeys being shorter and fewer being by car, instead using more reliable modes such as walking and cycling as well as a reduction in congestion improving reliability for other trips; and
- **The range of alternatives** will be increased by the ability to use active modes for the shorter journeys.

Local businesses will also be helped by the fact that the **street environment in 20-minute neighbourhoods will be improved,** in line with the new Surrey street family and Healthy Streets framework. Traffic levels will be lower (or removed), speeds will be slower and there will be new features such as green space. Evidence shows that customers are likely to make more visits and stay longer, improving custom for the businesses in the area (see box above).

Planning for Place will also support economic growth by facilitating the ongoing **growth of Surrey's valuable economic clusters,** such as the Surrey Research Park, for instance ensuring that land for expansion is made available.

Another key role will be planning for **additional housing development** to help alleviate our current affordability challenge and improve the options for essential workers living in Surrey.

Digital Connectivity (Avoid)

The Digital Connectivity Policy Area aims to support increased accessibility to online opportunities through measures including:

- Supporting extensive rollout of fibre broadband and 5G mobile coverage;
- Supporting development and raise awareness of online opportunities and services.

Strong digital connectivity will bring significant benefits to Surrey's businesses by:

- **Reducing travel costs and time** where online alternatives such as video meetings are possible; and
- **Widening the pool of potential employees and customers** where online working and sales are possible.

The scale of homeworking during 2020 and 2021 as a result of COVID-19 has highlighted the extent to which **businesses can save money by encouraging homeworking.** American studies suggest that firms save at least $11,000 p.a. per employee working fully or partly at home through reduced overheads such as office space.

Whilst measures will be needed to ensure that changed working patterns do not reduce productivity, there is increasing evidence of office based businesses reducing their space after the pandemic. Research for the Chartered Institute of Personnel and Development indicates that nearly 65% of surveyed businesses intend to offer homeworking options to a significant proportion of staff after the pandemic, compared to 35% before, with most talking of a **hybrid model of home and office working.**

Active Travel/Personal Mobility (Shift)

The Active Travel/Personal Mobility Policy Area aims to encourage mode shift to active travel and other personal mobility options through measures including:

- New, extended and improved routes;
- Supporting facilities;
- Measures to encourage change on longer journeys;
- Measures to increase awareness and safety;
- Hire schemes; and
- E-cargo bikes.

Measures within the LTP4 will provide excellent walking and cycling and personal mobility connections between residential areas and key economic centres and public transport hubs. This will support sustainable growth by **widening the potential pool of employees and consumer customers** for businesses.

The **health and productivity** of those undertaking active travel may also be improved with economic productivity benefits for their employers.

Over 80% of business improvement districts agreed that improved walking and cycling facilities attract more visitors to economic centres in a recent survey for Transport For London. It is increasingly recognised that improved active mode provision can support the viability of local economic centres in a number of ways.

In particular, evidence from bodies such as TfL and Living Streets suggests that those **arriving on foot or by bike make more trips** than those arriving by car and tend to stay longer, **spending more over an average month.** This is reinforced by the fact that reducing the dominance of cars makes the urban centres **more attractive places to spend time.** As visits increase, more businesses are attracted to the centre making them more attractive to visit and generating a virtuous circle of improvement.

Where cycling and walking routes connect to local shopping and economic hubs (for instance in a 20-minute neighbourhood) they will help to support the economic success of the centre, by **increasing trips to the centre** and potentially increasing spend (see box).

Provisions for active travel may also deliver **freight benefits** for some firms. The use of e-cargo bikes to make last mile deliveries can reduce costs, particularly in areas with delivery restrictions.

Public/Shared Transport (Shift)

The Public/Shared Transport Policy Area aims to encourage mode shift to public and shared transport through measures including:

- Improving, integrating and simplifying services;
- Improving journey time reliability;
- Simplifying fares and ticketing;
- Improving accessibility and safety;
- Expanding shared transport provision; and
- Developing Mobility Hubs.

Public transport plays an important role in the economy, bringing **a number of recognised economic benefits** (see box), including providing an efficient means of moving people to key destinations such as town centres, reducing traffic volumes, congestion and emissions.

Shared transport can **reinforce these benefits** by working with public transport to fill gaps in coverage or extend accessibility to public transport provision (for instance using a hired e-bike to access a rail station).

The Institute of Transport Studies, Leeds identifies that **bus services generate economic benefits in urban areas** in the following ways:

- Enabling large numbers of people to commute. Particularly in certain population sectors including females, younger age groups, part-time workers, and those on low incomes.
- Supporting better matching between people and jobs and increasing labour market participation.
- Improving accessibility to education and training.
- Supporting the viability and vitality of urban centres.
- Acting as a form of social insurance for those who don't regularly use the bus.

The LTP4 will deliver measures to improve the quality and coverage of public and shared transport, particularly on key corridors within the Strategic Opportunity Areas (shown in Figure 4.6). The improved coverage and attractiveness of public and shared transport will support sustainable growth in Surrey by opening up a **wider pool of potential employees and consumer customers** for businesses and **improving travel choice and reliability,** as well as improving **access to education and training opportunities.**

We will carefully plan public transport, such as the proposed West Guildford station, so that it also supports growth by **unlocking new areas of development for homes and jobs,** easing the constraints caused by limited availability of suitable land.

Demand Management for Cars (Shift)

The Demand Management for Cars Policy Area aims to support mode shift and reduce car use by reducing the priority given to cars over other modes through measures including:

- Altering parking supply and charges;
- Traffic calming;
- Engaging with eco-levy (pay as you drive) developments; and
- Using charging revenue to support sustainable modes.

Demand management for cars will have a **range of impacts on our economy.** Some businesses will benefit from the reduction in traffic and congestion which will **improve journey times and reliability,** particularly for freight.

The release of central urban space from parking and the reduction in traffic in central urban areas will also boost businesses. The released space will allow for green space and additional activities, and reduced traffic will reduce disruption, noise and pollution, making a **more attractive environment to spend time and money.** However, **some businesses with a reliance on car trips may be affected** by the reduced convenience and increased cost of car use, which could reduce customer numbers or increase business overheads **in the short term whilst travel patterns adjust** to the levelling up of priority between different modes of transport.

The balancing up of treatment of different modes of transport is a key part of the LTP4 and the demand management measures will be implemented as part of the wider package of measures from across the Policy Areas. Any revenue generated from charges will fund measures discussed under other Policy Areas, such as provision for active modes and public transport, with associated economic benefits.

Evidence from successful implementation of measures in places such as Nottingham (see box), shows that the economic benefits of the measures funded by the revenue from charges can more than balance the direct impacts of the charges, particularly for high street economies.

Nottingham introduced the first European Workplace Parking Levy (WPL) in 2012, charging for workplace parking except for fleets and delivery vehicles and small businesses. Subsequent reviews have shown that the levy has not discouraged companies from basing themselves in the city and not impacted on investment in the city, with no sign of significant negative economic impacts. In fact, there is evidence that Nottingham's strong public transport infrastructure (funded through the levy) is instrumental in leading to businesses locating into Nottingham.

Demand Management for Goods Vehicles (Shift)

The Demand Management for Goods Vehicles Policy Area aims to manage the impact of goods vehicles through measures including:

- Introducing delivery restrictions and consolidation;
- Altering traffic routing, speeds and priority; and
- Engaging with eco-levy (pay as you drive) developments.

Demand and delivery management for goods vehicles will bring benefits for many of Surrey's businesses through **reductions in congestion and improvements in reliability and journey time.** Other businesses in central areas will benefit from additional custom as areas become **more attractive environments** as a result of a reduction in heavy goods vehicle traffic.

Businesses using consolidation centres may also benefit from efficiency improvements in the medium term as their transport costs are reduced.

However, for **some businesses** the costs of **any charging and the short term disruption** caused by delivery management, such as consolidation centres, may bring an overall disbenefit in the short term as travel patterns change in response to the levelling up of priority between different modes of transport.

As for the measures for cars, it is important to see demand management as part of the full package of measures. The management measures are a core component of the overall package and will support measures to develop **thriving local centres.** The r**evenue raised from any charging will support other measures** with positive economic impacts, such as public transport provision.

Efficient Network Management (Improve)

The Efficient Network Management Policy Area aims to make safe and efficient use of the existing road network through measures including:

- Data driven network management;
- A 'Vision Zero' approach to road safety;
- Enforcement;
- Targeted capacity improvements;
- Network maintenance; and
- Futureproofing for new technology.

Managing traffic flow on our road network more efficiently will bring benefits to businesses in Surrey. Reducing congestion through improved use of information on network conditions, potential enforcement of road rules (if government grant us relevant enforcement powers) and targeted relief of congestion hotspots will **improve reliability and journey times.**

Network management will also bring economic benefits through targeted additions to the network that **allow land to be used for housing and economic development,** relieving the constraint of limited land, particularly where it allows the expansion of existing economic clusters.

We will focus measures particularly on routes within or between the eight **Strategic Opportunity Areas** identified in **Surrey's Place Ambition** (shown in **Figure 4.6**).

The LTP4 measures will also bring future economic benefits by ensuring that the **road network is resilient.** It will need to be developed to take account of future changes such as the predicted temperature rises and increased flooding that are associated with the level of climate change that is already inevitable. This will avoid future disruption and associated economic losses.

Another key aspect of futureproofing will be **preparing for emerging technologies,** such as connected and autonomous vehicles, ensuring that our businesses can make the most of the opportunities that they bring.

Promoting Zero Emissions Vehicles (Improve)

The Promoting Zero Emissions Vehicles Policy Area aims to accelerate ZEV uptake in Surrey through measures including:

- Planning and enabling charging and fuelling infrastructure;
- Accelerating the uptake of ZEV amongst council and wider fleets; and
- Expanding EV car clubs.

Businesses that upgrade to a ZEV fleet will benefit from **operating cost savings** relative to petrol and diesel vehicles, once they have overcome the higher upfront costs of buying the vehicle. Loans to firms to support purchase would help to overcome this hurdle and charging infrastructure provision will help to provide confidence in vehicle purchase.

Rolling out **EV car clubs which allow business use** will also provide some businesses with a cost effective way of accessing the car use that they need, bringing cost savings.

Supporting Behaviour Change (All)

The Supporting Behaviour Change Policy Area aims to encourage the behaviour changes amongst those travelling in Surrey that will be needed to support the other eight Policy Areas through measures including

- Developing and expanding current behaviour change work;
- Adopting technology and gamification; and
- Exploring mobility credits.

Behaviour change measures will be required to a greater or lesser extent to **deliver each of the other eight Policy Areas.**

For businesses focus will be particularly on measures to encourage:

- Recognition of the **environmental and economic costs of travel** and planning to reduce it wherever possible, for instance through more careful route planning or use of online alternatives to travel;
- Adoption of **less-polluting modes for business travel and freight** wherever possible and encouraging their employees to do so, for instance through workplace travel planning, potentially integrated with incentives delivered through the MaaS system; and
- Conversion of **commercial fleets to electric vehicles** or moving over to using car club vehicles.

4.3.3 What will the sustainable growth strategy mean for Surrey?

Figure 4.7 illustrates some of the main ways in which the LTP4 Policy Areas may combine to improve sustainable growth in Surrey.

LTP4 objective: To support Surrey's growth ambitions and enable business and people to prosper sustainably.

The impacts of LTP4 on sustainable growth

Looking forwards with the LTP4 measures in place, transport and connectivity support successful, sustainable growth in Surrey.

Urban centres receive **more visitors who stay longer** because:

Access is easy using well designed public and shared transport, walking and cycling routes.

The centres offer a **range of services and attractions** and an attractive environment to visit with pedestrianised or low traffic streets and green spaces.

Businesses have **access to a wider range of employees and customers** as it is easier to reach their sites via public and shared transport, on foot and by bike.

Businesses benefit from **excellent digital connections** which support advanced online working.

Many **employees are healthier** due to increased walking and cycling activity.

Business and delivery **journey times are more reliable** as the network flows more smoothly.

EVs and access to **EV car clubs provide operating cost savings** compared to petrol and diesel vehicles.

New transport connections have opened up **new land for housing** and economic development that is well connected to reliable public, shared and active transport options, helping to reduce house prices and expand economic centres.

Figure 4.7 – What will the sustainable growth strategy mean for Surrey?

4.4 Impact Strategy 3: To provide well-connected communities that encourage social mobility and ensure no-one is left behind

4.4.1 The need for a community and social mobility strategy

We need a community and social mobility strategy to **address the pockets of deprivation and inequalities** in our county. Although Surrey is an affluent and healthy county overall, pockets of deprivation exist. Broadly, two divides can be identified:

- Between the more affluent built-up areas and **some less affluent rural areas;** and
- Between the **less affluent areas in the east of the county** (including Redhill and Horley) and the remainder.

We want to work to make sure all communities are well-connected and opportunities are accessible to all, to ensure no-one is left behind. For the full evidence base that sits behind the LTP4 and this objective, please see the Evidence Base document.

Within Surrey the **25 most deprived areas** in 2015 ranked within the **most deprived 1/3 of areas** in the country.

Figure 4.8 – The need for a community and social mobility strategy

4.4.2 Achieving success

This LTP4 provides the transport roadmap for achieving the 2030 **Community Vision** for Surrey being a place where people are 'enabled to achieve their full potential and contribute to their community, and no one is left behind'. The LTP4 aims to address inequalities across Surrey, to ensure communities, and in particular vulnerable or disadvantaged groups, are provided with safe, accessible and affordable alternatives to the private car for travel across the county.

Success in delivering our community and social mobility objective will involve:

Shorter, more reliable, convenient, safer and lower-cost alternatives to private car journeys for access to opportunities and services.

Increasing the provision of local and digital opportunities and services, including education, healthcare and jobs, will reduce the number and length of trips that Surrey's residents need to make. This, coupled with improved active, public and shared transport options, will mean that communities are able to rely less on access to a private car.

Increased cycling and walking levels, becoming the norm for shorter journeys.

Provision of an integrated, high quality cycle and footpath network throughout Surrey that connects communities with opportunities will improve social mobility. Benefits will be increased by behaviour change measures and incentives to support and encourage residents to switch modes.

Safe, accessible and affordable alternatives to private car travel for all, including disadvantaged and vulnerable groups.

Improved and expanded public, demand responsive and shared transport will offer alternatives to the private car for longer journeys for all, including disadvantaged and vulnerable groups. This will support equitable access to opportunities by providing reliable, lower cost alternatives to car use and ownership.

Impact assessments and policies to support sustainability in **delivering the community and social mobility strategy**

New or upgraded infrastructure, transport system maintenance and operations regimes required to deliver the community and social mobility strategy will be assessed from the early stages of development to understand any potential **health, equality and environmental impacts.**

Specification, design and implementation of any LTP4 measures will, wherever possible, **avoid or mitigate any potential negative** impacts identified and **enhance any potential positive impacts.**

Further detail is provided in the **Sustainability impact assessments and policies for delivering the LTP4** section.

4.4.3 Role of Policy Areas

All nine Policy Areas will play an important role in achieving our community and social mobility objective through the Avoid, Shift and Improve principles. The relevant links are as illustrated in the **Logic Map** in Section 3.

The types of measures under each Policy Area that will contribute most to community and social mobility are described in the following sections.

For more detail on all the measures below please refer to the **Policy Area table** and the separate individual Policy Area sections.

Planning for Place (Avoid)

The Planning for Place Policy Area aims to encourage more local living, through measures including:

- Establishing '20-minute neighbourhoods'
- Developing a Surrey street family framework; and
- Ensuring that new development is focussed around sustainable travel options.

Measures to develop 20-minute neighbourhoods will **increase the provision of local opportunities and services,** including education, healthcare and jobs. Local activities will reduce the need for people to travel, resulting in fewer trips and shorter trips that can be made on foot or by bike. This in turn means that communities will be able to **rely less on access to a private car.**

Increase in activity locally within 20-minute neighbourhoods and the provision of community hubs with workspace and hot desking facilities will **open up opportunities for employment** to those without means to access existing employment sites. The changes will reduce or remove the distance travelled for work and associated costs, connecting communities with opportunities to increase social mobility.

Measures to make best use of existing **public transport provision in future developments** will increase the potential for residents to use public transport to access opportunities, including employment and education, over longer distances. This will improve equality of access to opportunities.

Digital Connectivity (Avoid)

The Digital Connectivity Policy Area aims to support increased accessibility to online opportunities through measures including:

- Supporting extensive rollout of fibre broadband and 5G mobile coverage;
- Supporting development and raise awareness of online opportunities and services.

Provision of a greater number and wider range of digital services and opportunities online will **remove the need for some people to travel** to access the opportunities provided. This will help to improve social mobility by **overcoming barriers to accessing opportunities,** including an individual's physical mobility levels and the affordability of travel costs, especially where car use is needed.

In particular, improved digital home-working opportunities (or near home-working in local digital hubs) can improve social mobility by reducing or removing the costs and challenges of commuting, including the potential need for car ownership.

Similarly, the improved provision of **digital services such as online healthcare appointments** and training sessions will remove the travel barrier for some, helping to support equal access to opportunities for residents across Surrey.

Active Travel/Personal Mobility (Shift)

The Active Travel/Personal Mobility Policy Area aims to encourage mode shift to active travel and other personal mobility options through measures including:

- New, extended and improved routes;
- Supporting facilities;
- Measures to encourage change on longer journeys;
- Measures to increase awareness and safety;
- Hire schemes; and
- E-Cargo bikes.

LTP4 measures will support an **integrated, high quality cycle and footpath network** in Surrey, connecting communities with opportunities. In particular, they will improve access by active modes and other personal mobility options to local centres and high streets. This will **increase opportunities for people to access their everyday needs locally** using affordable transport, improving social mobility.

Measures to make **bicycle ownership** as **accessible and affordable** as possible will reduce the barrier of lack of access experienced by some members of the community. Support for recycling and upcycling bike schemes and shops, or grants for bicycle purchase, will help to reduce purchase costs. We will also support the provision of free bicycle maintenance sessions to reduce ongoing costs for users.

In addition, **bicycle share and hire schemes** will help to support cycling without the need to own and store a bicycle. E-bike hire schemes will help to improve social mobility by making cycling an affordable and accessible option for more of the population, covering a wider range of mobility and fitness levels and a wider range of journeys over longer distances.

Routes and facilities for walking, cycling, scooting (and potentially e-scooting) will be **designed to be safe, accessible and attractive for all.** This will increase the proportion of the community able to use the routes to access services and opportunities, increasing their impact on social mobility.

Relevant measures will include providing facilities such as rest points for the less mobile and providing features to support other vulnerable and lone travellers, including design considerations such as lighting, wide accessible footways, natural surveillance and CCTV.

Public/Shared Transport (Shift)

The Public/Shared Transport Policy Area aims to encourage mode shift to public and shared transport through measures including:

- Improving, integrating and simplifying services
- Improving journey time reliability
- Simplifying fares and ticketing
- Improving accessibility and safety
- Expanding shared transport provision
- Developing Mobility Hubs
- Developing a MaaS framework

Measures to **improve public transport services and facilities** will increase the travel options that don't require private car use. The services will provide communities with access to additional opportunities, improving social mobility by increasing the potential for residents to access education, jobs, services and amenities.

Planned improvements to rail services are discussed in our recent **Surrey Rail Strategy** and bus improvements will be developed as part of our emerging Bus Service Improvement Plan.

The benefits from public transport will be increased by an **integrated shared transport system,** including demand responsive transport, bike, e-bike and potentially e-scooter hire and EV car clubs. These shared options will provide additional access to the public transport network from a wider catchment and will provide coverage for quieter routes that are not served by public transport.

Demand responsive transport schemes will be an important part of the overall picture. Electric minibuses serving identified routes and timetables if booked a short time in advance are currently being trialled in the Mole Valley (as discussed in the **Public/Shared Transport** Policy Area). If successful, the trial could form the starting point for a range of services to improve connections to rural areas across Surrey, improving opportunities for rural communities. Options like the Hampshire taxishare (see box) are also likely to play a role.

Bike and e-bike hire schemes will open up opportunities and increase social mobility by increasing the range of journeys that can be made by public and shared transport. For instance, they could provide an option for a last leg from a rail station or a one way section mid journey, for instance from a bus stop to a rail station. Hire and share schemes will also provide **affordable transport options** for people without the ability to buy, store or maintain a bike, e-bike or scooter.

Hampshire County Council has utilised taxi-sharing legislation to introduce low-cost services on poorly used bus routes. A taxishare runs to a timetable like a bus but operates using a taxi. If nobody books to travel, the service does not run. This can replace a local bus service that is no longer financially viable and serve communities spread across a wide rural area.

Source: www.hants.gov.uk/transport/transportoperators/community-transport-kit/setting-up/taxishare

EV car clubs will play an important role in the shared transport system, helping to provide **accessible and affordable alternatives to car ownership,** improving access to opportunities for residents across Surrey and increasing social mobility. In particular, car clubs will help to remove the need for car ownership, with vehicles available on a pay per use basis for those journeys for which cars are currently the only suitable option, for example access to job opportunities that are further afield.

The car clubs will also open up **affordable access to electric vehicles.** This will be important if emissions-based charging is introduced as it will provide options for those with higher emissions vehicles, including those in lower income households with older cars.

Mobility Hubs will provide easy access to and interchange between the public and shared transport options, helping to improve ease of use and provide seamless door to door journeys.

Digitally, the development of a **Mobility as a Service (MaaS)** app would provide easy access to information about all types of transport and the options available. It would also be possible to use it to **book and pay for journeys from end to end,** regardless of the number of types of transport involved, based on clear information on costs and options and a simple fares system. This would help to overcome the barrier that complex fares systems, information and options sometimes pose to those wanting to travel. To help overcome financial barriers to travel, **mobility credits** could also be provided through the MaaS app to **support important journeys** such as those to reach job interviews.

The MaaS framework would also support mobility by providing information about accessible travel (such as the location of accessibility ramps and lifts) and providing the opportunity to book assistance where it is needed on a journey.

Measures to **improve the physical accessibility of stations, stops and Mobility Hubs** to all will be an important part of increasing the impact of the LTP4 measures on social mobility. Access for all involves not only providing level access to board trains, buses and other vehicles but also the provision of safe and secure walking and cycling facilities.

Surrey Rail Strategy, 2021Surrey Rail Strategy, 2021

Includes a strategic aim of 'Increasing access for all'

- Ensuring stations and trains are accessible to all, by increasing the number of step free stations and looking at wider accessibility;
- Developing a ticketing structure that works for all; and
- Enabling access to the network by diverse modes, including increasing accessibility of stations to their local communities by walking, cycling, and other forms of public transport.

The recent **Surrey Rail Strategy** has an objective of 'access for all' (see box), recognising that only 18% of Surrey's stations are currently fully accessible. Through improving accessibility of rail and bus stations, stops and services, including compliance with Equality Act measures, LTP4 measures will help to ensure that public transport services are accessible to all users.

Overall, the measures to improve and integrate public and shared transport options, improve information, fares and physical accessibility will **help to reduce barriers to travel,** particularly for vulnerable or disadvantaged groups. Attractive, accessible alternatives to private car use and ownership will be provided and strengthened, opening up access to a wider range of opportunities and services for Surrey's residents and improving social mobility.

Demand Management for Cars (Shift)

The Demand Management for Cars Policy Area aims to support mode shift and reduce car use by reducing the priority given to cars over other modes through measures including:

- Altering parking supply and charges;
- Traffic calming;
- Engaging with eco-levy (pay as you drive) developments; and
- Using charging revenue to support sustainable modes.

If **emissions-based parking charges** or a local or national eco-levy (or pay as you drive charge) are introduced, they will be carefully managed to ensure that they don't limit social mobility by disproportionately affecting certain groups, such as low income households, blue badge holders or others with limited mobility.

It is important to note that demand management measures will only affect those already using a car and that the **revenue raised will be reinvested to fund active, shared and public transport** for all. If charges are emissions based, then affordable access to shared EVs in car clubs will be key to reducing the impact of charges on those members of the community without access to their own newer, less polluting vehicle.

Demand management measures will bring additional benefits by reducing car use. The reduction in traffic caused will make routes safer and more attractive for active modes. This means that **those without access to a car will be better able to safely travel locally** for their needs.

Demand Management for Goods Vehicles (Shift)

The Demand Management for Goods Vehicles Policy Area aims to manage the impact of goods vehicles through measures including:

- Introducing delivery restrictions and consolidation;
- Altering traffic routing, speeds and priority; and
- Engaging with eco-levy (pay as you drive) developments.

Demand Management for Goods Vehicles has **limited relevance** for supporting the community and social mobility objective.

There will be some benefits from achieving a safer, more attractive walking and cycling environment by removing larger delivery vehicles from communities and the local road network. However, this will not directly achieve more connected communities with better social mobility.

Efficient Network Management (Improve)

The Efficient Network Management Policy Area aims to make safe and efficient use of the existing road network through measures including:

- Data driven network management;
- A ‘Vision Zero’ approach to road safety;
- Enforcement;
- Targeted capacity improvements;
- Network maintenance; and
- Futureproofing for new technology.

Measures to manage the road network efficiently will improve **journey time reliability and prioritisation for public transport and active modes.** This will support social mobility through enhancing communities’ connectivity by bus or active travel to opportunities such as employment, education and training.

Through improving partnerships and data use, we will **develop end-to-end journey management,** rather than the traditional approach focussed within authority boundaries. This will improve connections between communities and neighbouring authorities and will increase reliability on journeys that cross boundaries.

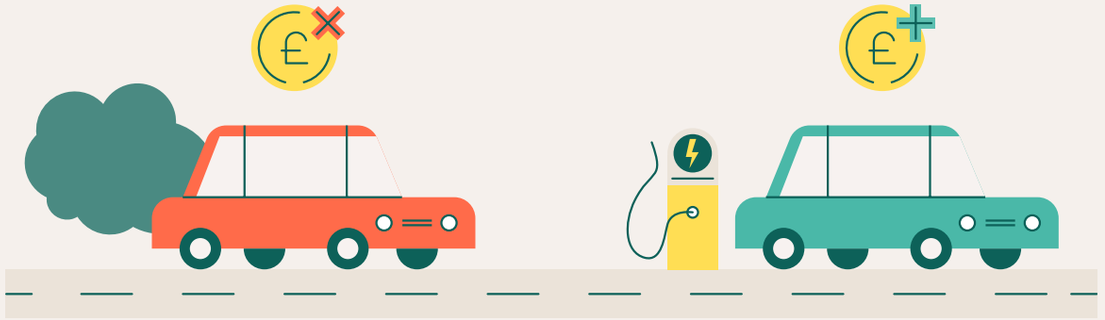
Promoting Zero Emission Vehicles (Improve)

The Promoting Zero Emissions Vehicles Policy Area aims to accelerate ZEV uptake in Surrey through measures including:

- Planning and enabling charging and fuelling infrastructure;
- Accelerating the uptake of ZEV amongst council and wider fleets; and
- Expanding EV car clubs.

Provision and promotion of EV charging facilities will include town centre locations and residential areas reliant on on-street parking and will cover all EV types, including e-scooters, e-bikes and electric cars. This will mean that individuals from communities will have good access to EV charging for different vehicle types.

EV car clubs will provide **access to EVs without the cost of ownership.** This will help to ensure that lower income car using households are not disadvantaged through emissions-based parking charges and will support social mobility by providing an affordable option for longer journeys that are not currently feasible by public or other shared transport.



The Local Government Association asserts that **EVs will have lower running costs** than traditional petrol and diesel vehicles, making car use and ownership **more cost effective for communities.**

Supporting Behaviour Change (All)

The Supporting Behaviour Change Policy Area aims to encourage the behaviour changes amongst those travelling in Surrey that will be needed to support the other eight Policy Areas through measures including:

- Developing and expanding current behaviour change work;
- Adopting technology and gamification; and
- Exploring mobility credits.

Behaviour change measures will be required to **deliver each of the other eight Policy Areas.**

We will develop a programme of **travel training sessions with hard to reach/seldom heard groups,** such as those not in education, employment or training (NEETs), jobseekers and members of the black, Asian, and minority ethnic (BAME) community. This will aim to improve social mobility opportunities by upskilling the local population, removing travel barriers and broadening travel horizons.

Mobility credits will also provide the opportunity to support sustainable travel choices and social mobility. For instance supporting jobseekers with mobility credit allowances would open up opportunities for accessibility. These measures could potentially be linked with job centres and university programmes to identify individuals in need and support their travel needs.

4.4.4 What will the community and social mobility strategy mean for Surrey?

Figure 4.9 illustrates some of main ways in which the LTP4 Policy Areas may combine to improve communities and social mobility in Surrey.

LTP4 objective: To provide well connected communities that encourage social mobility and ensure no-one is left behind.

The impacts of LTP4 on communities and social mobility

Looking forwards with the LTP4 measures in place, communities and social mobility in Surrey have significantly improved.

Residents have **access to more services and opportunities online** at low or no cost.

Integrated public and demand responsive transport services serve most residents and open up further services and opportunities.

The **services are accessible to all** as they are physically easy to access at Mobility Hubs (e.g. step free access) and can be booked through a user friendly MaaS system.

Local centres provide a wide range of services and can be easily accessed at low cost on foot or by bike (or scooter) using accessible, high quality walk and cycle routes.

Figure 4.9 – What will the community and social mobility strategy mean for Surrey?

4.5 Impact Strategy 4: To create thriving communities with clean air, excellent health, wellbeing and quality of life

4.5.1 The need for a quality of life strategy

We need a quality of life strategy to address our air quality issues and help to support residents to live healthy, active lives. We want to work with partners to ensure that our communities can thrive and our residents have an excellent quality of life, making Surrey a place in which people are proud to live.

For the full evidence base that sits behind the LTP4 and this objective, please see the **Evidence Base** document.

Surrey has **27 declared Air Quality Management Areas.** All have been declared in relation to excessive NO_2.

Figure 4.10 – The need for a quality life strategy

4.5.2 Achieving success

Through measures in the quality of life strategy we aim to support our **Community Vision** that 'everyone lives healthy, active and fulfilling lives, and makes good choices about their wellbeing'. Measures will also support our **Health and Wellbeing Strategy** to help people in Surrey to lead healthy lives; support the mental health and emotional wellbeing of people in Surrey; and support people in Surrey to fulfil their potential.

The measures in the strategy will reduce unnecessary car use and provide communities and residents with new and improved public, shared and active travel alternatives. This will mean that residents benefit from improved quality of life, through better access to opportunities, local air quality and opportunities to improve their health, both physical and mental, for instance through walking or cycling to access green spaces.

Success for the quality of life objective would involve:

Increased ability to live and access services / opportunities locally including leisure

Provision of local and digital opportunities and services including education, healthcare and jobs will reduce the number and length of trips made by Surrey's residents. Many of the shorter trips will be more suitable for active travel modes, bringing health benefits. Improved access to local leisure opportunities, including countryside and green space, is also likely to lead to improved physical and mental health.

Impacts of travel on road safety and communities reduced

Removing unnecessary and avoidable car journeys and rebalancing streets in favour of active modes will reduce the impacts of noise, air pollution and visual intrusion, whilst also improving safety for road users, such as pedestrians and cyclists.

Air quality and local health improved through reduced NOx and PM emissions

Reductions in cars and goods vehicles on local roads will improve local air quality, helping to improve residents' health .

Rebalanced use of local streets to favour people rather than vehicles

Prioritising people instead of vehicles will mean that streets provide safer and more attractive environments for walking and cycling and for leisure and social opportunities, improving residents' quality of life.

Higher levels of cycling and walking contributing to healthy lifestyles

Improving access to and the experience of walking and cycling by providing an integrated, high quality cycle and footpath network in Surrey, coupled with behaviour change measures and incentives to switch modes, will help to increase walking and cycling. Increased levels of activity will help to improve the physical and mental health of residents.

More attractive built and natural environments

Incorporating good quality, low carbon and resilient design, and striving to achieve environmental net gain through any infrastructure improvements made as part of the LTP4 implementation, will improve the affected built and natural environments in Surrey. This will include preserving the unique nature of Surrey, in particular sites with environmental designations, such as Areas of Outstanding Natural Beauty (AONB) and Sites of Special Scientific Interest (SSSI).

Impact assessments and policies to support sustainability in **delivering the quality of life strategy**

New or upgraded infrastructure, transport system maintenance and operations regimes required to deliver the quality of life strategy will be assessed from the early stages of development to understand any potential **health, equality and environmental impacts.**

Specification, design and implementation of any LTP4 measures will, wherever possible, **avoid or mitigate any potential negative impacts identified and enhance any potential positive impacts.**

Further detail is provided in the **Sustainability impact assessments and policies for delivering the LTP4** section.

4.5.1 Role of Policy Areas

All nine Policy Areas will play an important role in achieving our quality of life objective through each of the Avoid, Shift, Improve principles. The relevant links are as illustrated in the **Logic Map** in Section 3.

The types of measures under each Policy Area that will contribute most to quality of life are described in the following sections.

For more detail on all the measures below please refer to the **Policy Area table** and the separate individual Policy Area sections.

Planning for Place (Avoid)

The Planning for Place Policy Area aims to encourage more local living, through measures including:

- Establishing '20-minute neighbourhoods';
- Developing a Surrey street family framework; and
- Ensuring that new development is focussed around sustainable travel options.

Establishing 20-minute neighbourhoods will provide communities with better access to opportunities and services locally, including education, healthcare and jobs. The number and length of trips that Surrey's residents need to make will reduce and the **more local trips will be more likely to be made via active modes** such as walking, scooting or cycling, providing opportunities for improved health.

In addition, decreased reliance on car usage to access opportunities will result in **reduced traffic impacts on communities,** including improved road safety, reduced emissions and better local air quality.

New developments will also be planned to maximise local leisure and exercise opportunities, including green space, to support improved mental health.

Digital Connectivity (Avoid)

The Digital Connectivity Policy Area aims to support increased accessibility to online opportunities through measures including:

- Supporting extensive rollout of fibre broadband and 5G mobile coverage;
- Supporting development and raise awareness of online opportunities and services.

Measures to improve access to digital services and opportunities such as working from home, retail, healthcare appointments and online training sessions, will result in increased access to opportunities and a reduced need for Surrey's residents and employees to travel.

The reduction in vehicle trips will **reduce the impact of traffic on communities' quality of life** through influences such as local air quality and safety.

Active Travel/Personal Mobility (Shift)

The Active Travel/Personal Mobility Policy Area aims to encourage mode shift to active travel and other personal mobility options through measures including:

- New, extended and improved routes;
- Supporting facilities;
- Measures to encourage change on longer journeys;
- Measures to increase awareness and safety;
- Hire schemes; and
- E-cargo bikes.

The **uptake of active modes and other personal mobility options** is key to achieving the quality of life objective and improving air quality, health and wellbeing for Surrey residents.

The LTP4 measures will encourage active travel by providing an **integrated, safe, high quality cycle and footpath network** in Surrey, providing convenient links to key destinations such as high streets and local centres.

Measures will include **rebalancing local streets to favour walking and cycling** rather than cars and goods vehicles, reflecting our sustainable travel hierarchy (see **Figure 3.11**). This will improve the safety and attractiveness of active travel routes by increasing space for active modes and reducing speeds, in line with our new **Surrey street family** and Healthy Streets framework.

The reduction in traffic caused will enable and encourage direct access on foot and by bicycle and **decrease the impact of traffic on local communities,** providing a cleaner, quieter local environment with improved local air quality and quality of life. This will make local streets more attractive places for residents to live, work, play, socialise and move within their neighbourhood, **supporting thriving communities.**

The increase in active travel will also improve the physical and mental health **of those walking and cycling.** Further opportunities to improve **quality of life** will be provided through increased access to local opportunities and services and to leisure, such as access to countryside and green space.

Public/Shared Transport (Shift)

The Public/Shared Transport Policy Area aims to encourage mode shift to public and shared transport through measures including:

- Improving, integrating and simplifying services;
- Improving journey time reliability;
- Simplifying fares and ticketing;
- Improving accessibility and safety;
- Expanding shared transport provision; and
- Developing Mobility Hubs.

Well designed, improved public transport services and facilities will serve catchments and communities more effectively. The improved services will **increase travel options available,** helping the communities served and their residents to thrive.

These benefits will be increased by **well-integrated shared transport** including demand responsive transport for less busy routes and bike, e-bike (and potentially e-scooter) hire schemes, as well as car club options. These shared options will expand the population able to access public transport and will **provide alternatives to private car** for some journeys that are not currently served by public transport, improving accessibility to opportunities.

Measures to improve **walking and cycling access** to bus stops and rail stations will further **improve accessibility from local communities** and support the integration of different modes of transport to provide strong alternatives to private car use.

Mobility Hubs will improve travel options by providing clear physical integration of public and shared transport services and walking and cycling provision. This will improve the ease of use and interchange between transport types, helping to deliver seamless door to door journeys.

These benefits would be supported by joining up services digitally using a **Mobility as a Service (MaaS) app,** which would provide fares, information and options for bookings across all types of transport. This would improve travel options by making end to end journeys easier to plan and pay for. A MaaS system would also provide the opportunity to build in mobility credits to encourage change in travel patterns or provide credit for necessary journeys.

New developments could further encourage use of public/shared transport by providing access to the MaaS platform, rather than central parking spaces. The freed up parking space could be used for communal green spaces, play areas and other features to support quality of life in the community.

Communities will benefit from the **reduction in car use** caused by improved public and shared transport options. The reduction in traffic will contribute to improved environments for walking and cycling in town centres, with improved safety and air quality.

Members of the community taking the opportunity to include walking, cycling or scooting into their journeys will also experience further **health benefits from the increase in physical activity.**

Demand Management for Cars (Shift)

The Demand Management for Cars Policy Area aims to support mode shift and reduce car use by reducing the priority given to cars over other modes through measures including:

- Altering parking supply and charges;
- Traffic calming;
- Engaging with eco-levy (pay as you drive) developments; and
- Using charging revenue to support sustainable modes.

The quality of town centre environments will be improved through measures to manage car access by consolidating car parks into a smaller number of less central locations and increasing parking charges. **Reduced traffic circulation** will improve air quality and support pedestrianisation of central roads and the provision of increased road space for cycling and bus use.

The **released central car parking** space would also be **available for other uses** to improve the town centre, such as parks or other leisure and social facilities.

Elsewhere, local street environments will be improved by traffic calming, including the closure of some roads to through traffic in line with our emerging Healthy Streets principles. For other roads, measures will include reduced priority and speed for car and goods vehicle. The reduced traffic levels will improve local air quality, noise levels and road safety.

Should an eco-levy (or pay as you drive charge) be introduced nationally, regionally, or locally in Surrey, it would reduce car use. This would further reduce the impact of traffic on communities, including bringing improvements to air quality, noise levels and safety for other users.

The quality of life benefits from demand management measures will be supplemented by the **revenue raised from any charges being reinvested** to fund active, shared and public transport measures.

Demand Management for Goods Vehicles (Shift)

The Demand Management for Cars Policy Area aims to support mode shift and reduce car use by reducing the priority given to cars over other modes through measures including:

- Introducing delivery restrictions and consolidation;
- Altering traffic routing, speeds and priority; and
- Engaging with eco-levy (pay as you drive) developments.

Measures to **ensure that goods vehicles use appropriate routes** and avoid sensitive areas (such as Areas of Outstanding Natural Beauty, AONBs and Sites of Special Scientific Interest, SSSIs) and residential communities, will reduce the impacts on residents and contribute to more attractive built and natural environments.

Reduced goods vehicles movements through local streets will improve local air quality, noise levels and safety.

The reduction in traffic will also create a **more attractive, safer local environment** for walking and cycling. This will broaden travel choices for residents and provide opportunities for residents to improve their health and wellbeing through using active modes with confidence.

Efficient Network Management (Improve)

The Efficient Network Management Policy Area aims to make safe and efficient use of the existing road network through measures including:

- Data driven network management;
- A ‘Vision Zero’ approach to road safety;
- Enforcement;
- Targeted capacity improvements;
- Network maintenance; and
- Futureproofing for new technology.

Measures to manage and maintain the road network efficiently will **improve reliability and safety** for all forms of transport.

They will also reduce congestion and idling, **reducing emissions and improving local air quality.**

Efficient network management may require minor road capacity increases in some locations to alleviate congestion hotspots or remove traffic from sensitive communities. In these limited cases, we will design schemes to deliver **significant reallocation of road space** overall away from car and goods vehicle use. In this way, the community will benefit from safer, more accessible and healthy streets to support the use of active and other personal transport options and public transport.

Measures to futureproof our network will help to support rapid uptake of electric vehicles and future vehicle features such as digital enforcement of speed limits. This will ensure that we maximise future opportunities to **make best use of our road network** to provide smooth and reliable journeys and improve local air quality and road safety.

Promoting Zero Emission Vehicles (Improve)

The Promoting Zero Emissions Vehicles Policy Area aims to accelerate ZEV uptake in Surrey through measures including:

- Planning and enabling charging and fuelling infrastructure;
- Accelerating the uptake of ZEV amongst council and wider fleets; and
- Expanding EV car clubs.

The increased use of zero emission vehicles (ZEVs) will lead to significant **improvements in some aspects of local air quality and reduced noise levels,** improving local street environments and the health and well-being of residents.

Provision of car clubs to accelerate ZEV uptake will provide additional **travel options that do not require private car ownership,** opening up new opportunities and helping to reduce car ownership and traffic levels.

Supporting Behaviour Change (All)

The Supporting Behaviour Change Policy Area aims to encourage the behaviour changes amongst those travelling in Surrey that will be needed to support the other eight Policy Areas through measures including:

- Developing and expanding current behaviour change work;
- Adopting technology and gamification; and
- Exploring mobility credits.

Behaviour change measures will be required to **deliver each of the other eight Policy Areas.**

We will **promote the health and wider benefits** associated with a shift to active modes along with the benefits of using public and share transport and moving to ZEVs. Increasing levels of mode shift and ZEV uptake will bring communities benefits ranging from reduced traffic intrusion and associated impacts to improvements in health and air quality.

Measures will include continuing to build on our successful **Sustainable Schools Travel Strategy** to empower and encourage young people and their parents to walk, cycle or scoot to school, improving their health and wellbeing, bringing environmental benefits and building healthy habits for the future, as well as improving road safety around schools.

4.5.3 What will the quality of life strategy mean for Surrey?

Figure 4.11 illustrates some of the main ways in which the LTP4 Policy Areas may combine to improve quality of life in Surrey.

LTP4 objective: To create thriving communities with clean air, excellent health, wellbeing and quality of life.

The impacts of LTP4 on quality of life

Looking forwards with the LTP4 measures in place, the quality of life in Surrey has significantly improved.

Local air quality has significantly improved because:

Emissions per vehicle kilometre are lower as:

Traffic flows more smoothly.

An increasing number of vehicles are **smaller and electric vehicles.**

Traffic flows are lower as people:

Use **digital services** and opportunities more.

Travel more on foot and by bike using new routes and rebalanced traffic calmed roads and use the **expanded opportunities in their local centre.**

Travel more by public or shared transport accessed by Mobility Hubs and using a MaaS app.

Receive **deliveries that arrive by e-cargo bike** or electric van for their last leg.

Noise levels and visual and other disruption have also reduced with reduced traffic levels.

Access to leisure opportunities and green space has improved with improved options for travelling on foot, by bike or by public or shared transport.

Physical and mental health has improved in the community due to improved air quality, greater access to leisure opportunities and increased walking and cycling activity.

Figure 4.11 – What will the quality of life strategy mean for Surrey?

Delivering the Plan

Delivering the Plan

5.1 The delivery programme

Roles, Responsibilities and Collaborative Working

The county council is keen to work collaboratively with Districts and Boroughs, stakeholders, partner organisations, local groups, businesses, communities and residents to deliver the LTP4 and jointly achieve our ambitious objectives.

We will lead on the delivery of the LTP4 going forward, as part of our statutory responsibility to maintain and develop transport and highways at a local level. However, many of the measures identified within LTP4 will require the involvement of other organisations, particularly our District and Borough authorities, sub-national transport body and Central Government.

The LTP4 establishes the approach for how Surrey's local authorities and other partners will work together to put the county on the path to net zero carbon emissions. Our success relies on us all taking action to shift our behaviour and to live more sustainable lives to help safeguard our communities and the environment.

The LTP4 also underlines our intention to work in partnership with national Government to achieve our ambitions. To this end, we will continue working with the Government to shape the national strategy for delivering on the UK's net zero carbon target. It will also be critical that we work alongside the business community in Surrey and other key partners to ensure we are able to secure the required innovation and investment required to undertake this work.

We will work collaboratively with our partners to achieve our vision for Surrey's transport system. Figure 5.1 illustrates some of the groups involved, however collaboration will be wide-reaching, involving a wider range of local groups and organisations than those shown.

Working collaboratively with a range of stakeholders will enable us to progress measures that impact on land use planning and digital connectivity, as well as transport. It will mean we can develop a coordinated approach to reducing carbon, encouraging sustainable growth, connecting communities and providing excellent quality of life across all of our transport initiatives going forward. It will also enable us to act more innovatively and develop resilience in Surrey's transport system.

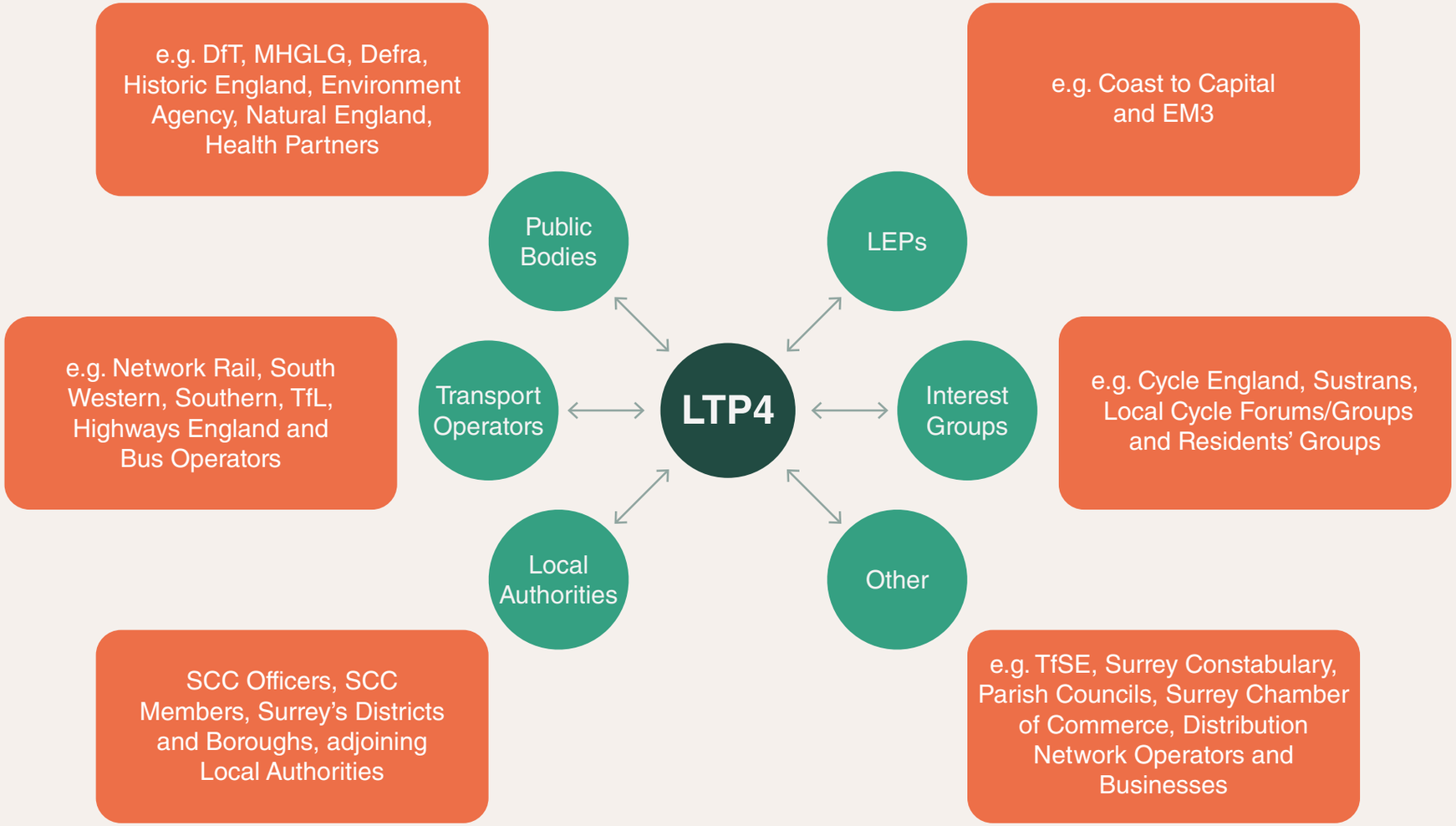


Figure 5.1 – Illustration of LTP4 Collaboration

LTP4 funding

Delivery of our ambitious LTP4 will require significant levels of funding. Achieving net zero carbon emissions is our priority, therefore investment in the route to net zero is key. We will be proactive in our approach to sourcing this funding and will maximise a range of sources across place making, digital connectivity and the transport system.

Delivery of the LTP4 measures will require revenue funding (for ongoing running costs and repairs) and capital funding (to deliver new assets and make improvements to existing infrastructure). However, the local government funding landscape is challenging, particularly in terms of availability of revenue funding, therefore requiring our proactive approach.

Capital funding comes from several sources including central government grants, developer contributions, and Council sources such as Council Tax. Capital funding for transport through competitive bidding processes regionally (through the Local Enterprise Partnership), or nationally (from various government departments), has become an increasingly large share of funding for transport in Surrey. We are currently developing a Surrey Infrastructure Plan to prioritise funding for infrastructure across Surrey. The Infrastructure Plan will prioritise projects in the county over the short, medium and long term to support sustainable growth, with a commitment to environmental, place and health and wellbeing outcomes, therefore well aligned with the LTP4 objectives.

We anticipate that many of the projects in the LTP4 will be funded, at least in part, through competitive bidding aimed at achieving specific government priorities. We have therefore aligned LTP4 priorities with those of central government as far as possible, and will remain alert to funding opportunities, to maximise the funding we can secure in this way. As funding becomes increasingly place or outcome-based, rather than transport-specific, this will require us to consider funding opportunities from a number of government departments, not just the Department for Transport (DfT).

As set out in the Policy Areas, **revenue from parking charges or an ecolevy** (pay as you go car use) could provide an **important source of revenue to fund the other policy areas** set out in the LTP4, strengthening the alternatives to car use.

Of course, the county council is not the only delivery or funding body for LTP4 policies and projects. As appropriate, we anticipate that the Districts and Boroughs, Network Rail, Highways England, other agencies and third parties will fund or part-fund projects in their areas or on their networks.

5.2 LTP4 Phasing

This section provides a roadmap for implementation of the nine Policy Areas identified. More detail on timings and delivery will be provided in the LTP4 Delivery Plan which will be published in 2022. The Delivery Plan will be a live document that will be regularly updated going forward.

The LTP4 roadmap is separated into short, medium and long-term timescales and takes into account the scale of change needed to achieve the LTP4 objectives, particularly the rapid reduction in carbon from our transport system.

Short term (to 2025)

In the short-term measures are focused on achieving a 'green' and 'healthy' recovery from COVID-19 and accelerating the Avoid-Shift-Improve approach to carbon reduction. This means taking action and strengthening links to deliver the place making and digital connectivity aspects of the LTP4. This also includes capitalising on the increased focus on walking and cycling to start a 'shift' away from car dependency, rebuilding trust in public transport, accelerating EV uptake, continuing to build on existing good practice, and delivery of relevant already planned schemes.

Medium-term (to 2030)

The medium-term is about embedding carbon-neutral travel behaviours, investing in strengthening places and communities, delivery of higher impact but harder to deliver measures, greater uptake of technology solutions and achieving the transition from traffic growth to traffic reduction.

Longer-term (post 2030)

The longer-term is about consolidating travel behaviours in the context of significantly reduced car dependency and people-focused places; and managing the impacts of autonomous vehicle technology.

		2022	2025	2030	2035+
Policy Area		**Short Term**	**Medium Term**	**Long Term**	
Avoid	**Planning for Place**	Develop 20-minute neighbourhoods	Develop mobility hubs		
	Digital Connectivity	Extensive rollout of fibre broadband & 5G mobile coverage			
Shift	**Active Travel/ Personal Mobility**	Develop LCWIPs programme to deliver high quality networks of walking and cycling corridors connecting neighbourhoods to key destinations	Integrate active travel measures with planning for place measures		
	Public/Shared Transport	Post COVID-19 recovery measures in line with Bus Back Better	Develop MaaS & journey planning with shared transport solutions and mobility credits	Improve rail and bus services combined with shared DRT services	
	Demand Management for Cars	Reduce parking & increase costs to incentivise low carbon alternatives			Potential national ecolevy (pay-as-you-drive) if carbon reduction targets not met
	Demand Management for Goods Vehicles		Implement consolidation and delivery hubs		Potential national ecolevy (pay-as-you-drive) if carbon reduction targets not met

Figure 5.2 – LTP4 Roadmap

		2022	2025	2030 2035+
Policy Area		**Short Term**	**Medium Term**	**Long Term**
Improve	**Efficient Network Management**	Minor road capacity improvements to alleviate congestion	Use technologies to best use data to provide efficient management management of travel conditions	Adopt Connected Infrastructure (C-ITS)
	Promoting Zero Emission Vehicles	Implement county EV charge point network including on-street, on route and destination charging points	Accelerate uptake of EV/hydrogen for own fleet, taxi fleet, car club fleet and public/shared transport fleet	
All	**Supporting Behaviour Change**	Inform, educate, promote and incentivise measures within the other policy areas		

Figure 5.2 – LTP4 Roadmap

Measuring our success

Measuring our success

The county council has a statutory duty to monitor the LTP4. We will monitor progress against the LTP4 objectives over its lifespan and report this via an Annual Progress Report going forward.

As the key priority of the LTP4 is **to achieve net zero carbon emissions across Surrey by 2050, with a 60% reduction by 2035,** we will monitor the LTP4 to track progress against this objective.

Monitoring will also be closely linked to other county council reporting, including that of the **Climate Change Strategy,** with similar metrics being collected for both strategies. Where possible, data that is already available and collected on a national, regional or local basis will be used to track progress of the LTP4 towards achieving its aspirational objectives.

Table 6.1 illustrates the type of data that may be collected for monitoring. The final indicators to be used will be agreed for the final version of the LTP4.

Table 6.1: LTP4 monitoring framework

Objective	Outcome to be monitored	Type of indicative indicator
Net zero carbon emissions across Surrey by 2050 **(60% reduction by 2035)**	**Significant reduction in car, van and HGV vehicle kilometres**	Road Traffic Statistics (traffic volume kms by vehicle type and road class)
	Reduction in carbon intensity of remaining vehicle kms	UK local authority and regional carbon dioxide emissions statistics
		Data on all licensed and registered vehicles
		County Council and Surrey fleet percentages of zero emission vehicles
Support Surrey's growth ambitions and enable businesses and people to prosper sustainably	**Good quality accessibility between economic centres and employees, suppliers, similar businesses and customers**	Journey time statistics
		NHT Public Satisfaction Survey: • Ease of access indicators, including to work by any mode • Number of Bus Stops

Objective	Outcome to be monitored	Type of Indicator
Support Surrey's growth ambitions and enable businesses and people to prosper sustainably	**Reliable, multi-modal or digital connectivity between key hubs, including international gateways**	Road congestion and journey time statistics
		Bus Reliability and Punctuality
		NHT Public Satisfaction Survey • Ease of access indicators, including to work by any mode
		Operator information
		Measuring digital connectivity
	Reliable end-to-end journey times for people and goods, including first and last miles	Road congestion and journey time statistics
		Bus Reliability and Punctuality
		NHT Public Satisfaction Survey • Ease of access indicators, including to work by any mode

Objective	Outcome to be monitored	Type of Indicator
Support Surrey's growth ambitions and enable businesses and people to prosper sustainably	**Attractive business environment for the green sector**	Energy and environment data tables • Electric vehicle charging
		LEP data on business start-ups or employment/GVA by sector
		Climate Change Strategy – monitoring & metrics
		Measuring digital connectivity
	A resilient, future ready transport network	Energy and environment data tables • Electric vehicle charging
		Asset management indicator • e.g. average network age
		Number of resilience related measures • e.g. flood relief implemented in the year • e.g. Proportion of transport interventions (new or improvements) incorporating best practice SuDS / Natural Flood Management
		Climate Change Strategy – monitoring & metrics

Objective	Outcome to be monitored	Type of Indicator
Well-connected communities that encourage social mobility and ensure no-one is left behind	**Shorter, more reliable, convenient, safer and lower-cost alternatives to private car journeys for access to opportunities and services**	Journey time statistics – data tables
		Local bus passenger journeys
		School Census
		Increase in length of cycleways and footways in Surrey
	Increased cycling and walking levels, becoming the norm for shorter journeys	• Government walking/cycling statistics • Road Traffic Statistics – Pedal cycle traffic • Surrey cycle counts
	Safe, accessible and affordable alternatives to private car travel for all, including disadvantaged and vulnerable groups	Journey time statistics: data tables
		Local bus passenger journeys • Concessionary usage
		Safety – Personal security / crimes on public transport • Accidents and crime incidents associated with transport network
		Equity of access (compliance with Equality Act): • Percentage of bus stops with RTPI, full physical accessibility • Percentage of accessible/low level buses • Percentage of accessible rail stations

Objective	Outcome to be monitored	Type of Indicator
Thriving communities with clean air, excellent health, wellbeing and quality of life	**Increased ability to live and access services / opportunities locally including leisure**	Journey time statistics – data tables
		Government walking/cycling statistics
		Road Traffic Statistics: Pedal cycle traffic
		NHT Public Satisfaction Survey
	Impacts of travel on communities minimised and road safety improved	Road Traffic Statistics (traffic volume kms by vehicle type and road class)
		Road accident and casualty figures
		NHT Survey • Net satisfaction/dissatisfaction with the routes taken by heavy goods vehicles in Surrey
		Community HGV Watch • No. of recorded incidents
	Air quality and local health improved through reduced NO_x and PM emissions	• Total no. of AQMAs • No. of AQMAs declared • No. of AQMAs revoked • No. residents living within an AQMA.
		Traffic counts by vehicle type in AQMAs

Objective	Outcome to be monitored	Type of Indicator
Thriving communities with clean air, excellent health, wellbeing and quality of life	**Higher levels of cycling and walking contributing to healthy lifestyles**	Government walking/cycling statistics
		Road Traffic Statistics: Pedal cycle traffic
		Surrey cycle counts
	Rebalanced use of local streets to favour people rather than vehicles	• Length of streets which are pedestrianised, or in low traffic neighbourhoods • Length of 20mph / low traffic neighbourhoods
	More attractive built and natural environments	NHT Public Satisfaction Survey
		• Biodiversity – Area / Length of Green Infrastructure developed (Greenways etc.) • Net Gain in Biodiversity due to transport interventions • Number of transport interventions directly impacting on designated areas • Townscape – Percentage area of transport schemes that incorporate improvements to public realm and sympathetic design • Landscape – Area covered by transport schemes within or in close proximity to AONB / National Park designated areas • Cultural heritage – Number of heritage assets impacted by transport schemes.

Next steps and further information

Next steps and further information

7.1 Next steps

As set out in Section 5, our LTP4 aims to address current challenges whilst working towards our longer-term vision and objectives. Our LTP4 Delivery Plan will be published in 2022 and will set out our forward programme for delivery of LTP4 in more detail.

In terms of next steps, the process for further refining and developing the LTP4 is shown below in Figure 7.1. This includes public consultation on the draft LTP4, with feedback received to be carefully analysed and considered in the development of the final version. Our indicative programme is shown below.

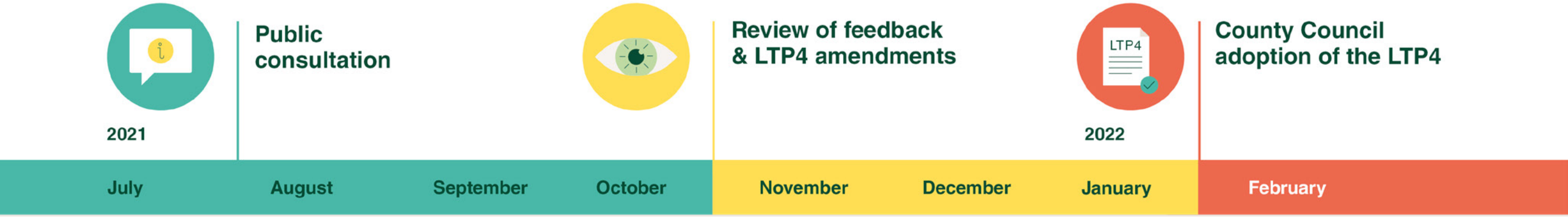


Figure 7.1 – Indicative Timeline for LTP4 Review and Adoption

7.2 What can you do?

The COVID-19 restrictions induced a significant shift in transport use in the short term. Hopefully this period of reduction in car dependency and increases in cycling and walking will inspire others to consider and adopt greener and healthier travel options. Clearly the restrictions on public transport have (necessarily) caused a backwards step in public transport use. However, the recovery phase for both Surrey and the UK represents a clear opportunity for us to build back better and to build back fairer. Even before restrictions altered travel patterns, there were clear indications of greater public support for progress on transport that better supports health. More environmentally friendly modes of transport, safe spaces for more active modes of transport, and better-quality public transport were all in demand before the pandemic and must remain a high priority now.

There are many ways in which we can all help. Some may already be doing these things, or at least considering the alternatives. For some, they may not be currently realistic or available, but could potentially be considered and adopted with some change in our collective travel habits. The options include:

- Reducing the length of car journeys by using **local shops and facilities;**
- For shorter journeys, **walk or cycle;**
- When using a car, try **combining a number of trips** together;
- **Walking and cycling children to school,** especially if working at home more often; and
- Beginning to **plan for switching to a smaller electric vehicle.**

Through collective action we can achieve our countywide LTP4 aspirations and our vision for:

"A future-ready transport system that allows Surrey to lead the UK in achieving a **low-carbon, economically prosperous, healthy** and **inclusive county** with **excellent quality of life** for all residents, whilst seeking to **enhance** the built and natural environments."

7.3 Further Information

To access the full LTP4 evidence base **click here.**

To access the full LTP4 Integrated Sustainability Appraisal (ISA) **click here.**

7.4 How to comment on the LTP4

Have your say on the draft Local Transport Plan by visiting **https://surreyltp4.commonplace.is/** until 24 October 2021.

Glossary

	Term	Definition
A	**Accessibility**	In transport terms, the degree to which services and opportunities (such as health services and shops) and transport services, can be reached by all members of society at a reasonable cost and in a reasonable time scale.
	Active Travel	Making journeys in a physically active way e.g. walking and cycling.
	Air Quality	Term used to describe the levels of pollution in the air. Higher levels of pollution lead to lower air quality.
	Air Quality Management Areas (AQMA)	An area where levels of local pollutants in the air exceed acceptable levels set nationally by Government. An AQMA must have a plan to improve the air quality.
	Area of Outstanding Natural Beauty (AONB)	A designated area of exceptional landscape with a distinctive character and natural beauty that needs to be safeguarded in the national interest.
	Autonomous Vehicle	A vehicle that is able to operate itself and perform necessary functions without human intervention by sensing their surroundings (also known as self-driving or driverless vehicles).
B	**Behaviour Change**	A change in the way people behave for instance in relation in the way they travel to work.
C	**Car Club**	A pool of cars that people and businesses can pay to use on a per trip basis.
	Carbon Net Zero	A situation in which any carbon dioxide emitted to the atmosphere is balanced by removals through natural processes (for instance carbon dioxide absorbed by tree growth) or technological means (such as direct air capture).
	Cargo Bike	A cycle that is specially designed to carry loads such as deliveries or heavy equipment.

	Term	Definition
	Circular economy principles	An economic system aimed at eliminating waste and the continual use of resources. It is based on three principles: design out waste and pollution; keep products and materials in use; and regenerate natural systems such as soil or the oceans.
	Clean Air Zone (CAZ)	An area where targeted action is taken to improve air quality by reducing pollution from road vehicles e.g. through encouraging greater uptake of Ultra Low Emission Vehicles (ULEVs) and walking and cycling.
	Climate Change	A long term change in global or regional climate patterns and average temperatures, due to increased levels of greenhouse gases in the atmosphere.
	Climate Emergency	A climate emergency declaration is an action taken by governments and scientists to acknowledge that urgent action is required to halt climate change and irreversible environmental damage.
	Connected Infrastructure (C-ITS)	Transport technology that allows vehicles and infrastructure to communicate with each other to help improve traffic conditions e.g. messages can be sent from cars on the road about journey time which helps to show where there are traffic hot spots, allowing alerts to be sent to other drivers to consider taking a different route.
	Connectivity	In relation to transport, this means the effectiveness of the transport network at getting people from one location to another.
	Consolidation centre/hub	A place where many suppliers can have goods delivered and combined into a single fuller load on one vehicle, often smaller, for the last leg of the journey e.g. into the city centre.
D	**Decarbonisation**	Removing or reducing the carbon dioxide produced by human activities such as transport.
	Delivery Management	Planning deliveries made by multiple companies to reduce their impact on congestion and the environment e.g. through consolidation centres.

	Term	Definition
	Demand Management	Strategies or measures to reduce the demand for travel e.g. parking charges or road pricing.
	Demand Responsive Transport	A flexible form of shared transport where people book journeys on identified routes and vehicles alter their routes based on where the people travelling at that time wish to go, rather than fully following a fixed route or timetable.
	Deprivation	When people lack basic requirements e.g. access to healthy food or jobs.
	Digital Connectivity	The ability to access services or activities without travelling through internet or mobile phone connections e.g. working from home or online doctor's appointments.
E	**E-bike**	A cycle with an electric battery to assist or replace pedalling.
	Eco-levy	Also known as a road user charging scheme – involves drivers paying for road use on a per trip basis.
	Electric Vehicle (EV)	EVs are vehicles that are either partially or fully powered on electric power.
	Embodied carbon	The carbon produced during the lifecycle of a material or product. It considers the amount of carbon released throughout the entire supply chain and sometimes up until the end of its lifecycle. For instance the embodied carbon of a road would include the carbon associated with making and transporting asphalt.
	Environmental net gain	A situation where the environmental benefits caused by an action more than balance out the negative impact.
	E-scooters	A scooter with an electric battery that propels it forward.
G	**Global warming**	The gradual increase in the overall temperature of the earth's atmosphere, caused by increased levels of greenhouse gases.

	Term	Definition
	Green Light Optimal Speed Advisory (GLOSA)	A traffic management system to reduce traffic congestion by informing vehicles approaching traffic lights of the best average speed to take to pass through on green.
	Gross Value Added (GVA)	A measure of total output in a local economy.
H	**Healthy Streets approach**	The Healthy Streets Approach focuses on creating streets that are pleasant, safe and attractive, where noise, air pollution, accessibility and lack of seating and shelter are not barriers that prevent people using streets. This is intended to lead to a healthier environment where people are able to choose to walk, cycle and use public transport more often.
I	**Integrated Sustainability Appraisal (ISA)**	LTP4 has been subjected to a series of assessments that cover the topics of Sustainability and Strategic Environmental Assessment (SA/SEA), Health Impact Assessment (HIA), Equality Impact Assessment (EqIA) and Community Safety Assessment (CSA). Taken together these various assessments are described as an ISA.
	Intelligent Transport Systems (ITS)	Technology that provides users with prior information about traffic, real-time running information, seat availability and other travel information.
L	**Last Mile**	The last leg of a journey, either for a person or goods being delivered.
	Lift Share	An arrangement where people travel together in one vehicle, sharing the costs.
M	**Mobility as a Service (MaaS)**	A system through which people can access information, plan and pay for their journeys in one simple place e.g. on a mobile app. This app can cover multiple different ways to travel e.g. bus, rail, cycling and car share.
	Mobility	Technologies and services that enable people and goods to move around more freely.

	Term	Definition
	Mobility Credits	Credits provided in exchange for a private vehicle that is given up, which can be spent on certain forms of shared transport e.g. bus, rail, car club. The incentive is created by the credits being greater than the market value of the car.
	Mobility Hub	A high quality, accessible space bringing together access to different modes of transport e.g. bus, walking, cycling and e-scooter rental and to other activities and services.
	Mode Shift	A change in the way people travel e.g. from driving to cycling or from the bus to walking.
	Multi-Modal	Involving more than one mode (type) of travelling e.g. both bus and train.
N	**National Nature Reserves (NNR)**	Areas of land set aside for nature. Most reserves contain nationally or internationally important habitats and species, so the wildlife is managed carefully.
	Net Zero	A situation in which any carbon dioxide emitted to the atmosphere is balanced by removals through natural processes (for instance carbon dioxide absorbed by tree growth) or technological means (such as direct air capture).
	Network Management	Running the highway network so that vehicles move around smoothly and efficiently. Management involves measures like responding to incidents and congestion build up.
	Noise Important Areas	Areas in which the top 1% of the population affected by the highest noise levels from major roads live.
	NOx	In atmospheric chemistry, NOx is a generic term for the nitrogen oxides that are most relevant for air pollution, namely nitric oxide (NO) and nitrogen dioxide (NO2).
P	**Parking Management**	Strategies to improve the efficiency of parking in an area e.g. public car parks and on street parking within a town. This may involve changing the number of spaces available and the cost to park, to influence the number of people driving into an area and hence traffic levels.

	Term	Definition
	Public Transport	Transport that charges fares and runs on fixed routes and is available for use by the public e.g. bus, train and coach.
R	**Reward Apps**	Smartphone apps which gives points and rewards to encourage people to travel in ways which are either healthier or more sustainable.
	Road User Charging	Charging drivers of vehicles for the use of the road.
S	**Segregated Cycle Lanes**	A path for cyclists that is separate to motor traffic and pedestrians .
	Severance	The separation of people from facilities and services they use within their community caused by traffic flows.
	Shared Transport	Forms of transport that are shared between users e.g. cycles, cars, scooters. They could be shared between people at the same time (lift sharing in a car) or at separate times (car club hire).
	Site of Special Scientific Interest (SSSI)	A formal conservation designation. Usually, it describes an area that is of particular interest to science due to the rare species of fauna or flora it contains or important geological or physiological features that may lie in its boundaries.
	Social Mobility	The ability for members of the population to move upward or downward through levels in society, considered in terms of social factors such as income, occupation or education.
	Special Areas of Conservation	Areas of land designated under Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.
	Special Protection Area	Special sites designated under the EU Birds Directive to protect rare, vulnerable and migratory birds.

	Term	Definition
	Strategic Opportunity Area	An area identified in Surrey's Place Ambition as a focus for significant economic growth and investment.
	Sustainable Transport	Forms of transport that have a low impact on the environment e.g. walking and cycling.
T	**Triple Access System**	Developed by Glen Lyons and Cody Davidson. This framework sets out that accessibility to opportunities and services can be improved in three ways: (1) improvement in the transport system, (2) improvements in digital connections e.g. through the internet and mobile phones, and (3) improved spatial connections e.g. reduced distance to a shop and park.
U	**Ultra-Low Emission Vehicle (ULEVs)**	Vehicle that uses low carbon technologies, emits less than 75g of CO2/km from the tailpipe and/or is capable of producing zero tailpipe emissions for at least ten miles.
V	**Variable Messaging Sign (VMS)**	Electronic signs used at the roadside to share information and key messages to road users.
W	**Workplace Parking Levy**	A charge on employers and education organisations for the number of parking places they provide that are regularly used by employees or students.
Z	**Zero Emission Vehicle**	A vehicle which has the potential to produce no direct tailpipe emissions.